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OCTOBER 1948

ARMY INFORMATION DIGEST

Housing for Army Families
Lieutenant General Henry S. Aurand
The Navy Team
Tokyo Schooldays
Lost and Found--$8,500,000
Engineers Look to the Future
All Together for National Defense

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THE GUARD TRAINS FOR M-DAY

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THE ARMY INFORMATION DIGEST

The ARMY INFORMATION DIGEST is published monthly by the Department of the Army. Its contents are prepared under the supervision of the Commandant, Armed Forces Information School, on behalf of the Chief of Information, Department of the Army. THE DIGEST is designed to provide information about the Army to members of the military establishment.

Manuscripts submitted for publication, suggestions for articles, and correspondence relating to the contents and preparation of THE DIGEST, should be addressed to The Editor, Army Information Digest, Carlisle Barracks, Pa. Direct communication is authorized. Back issues may be obtained on request to the Editor.

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AIR FORCE:

USAF (100); USAF Maj Comds (30); USAF Sub Comds (20); W (3); G (4); S (2); Class III Instls (5).

For explanation of distribution formula, see TM 38-405.

THE DIGEST *is printed with approval of the Bureau of the Budget.*

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 15 cents, single. Subscription price $1.50 a year, domestic; $2.00 foreign

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Official U. S. Army Signal Corps Photo

LOGISTICS DIRECTOR

Lieutenant General Henry S. Aurand, Director, Logistics Division, General Staff, United States Army, was commissioned second lieutenant, Coast Artillery Corps, upon graduation from the United States Military Academy in 1915, and was transferred to the Ordnance Department in 1920. He was graduated from the Army War College in 1931, and from the Army Industrial College in 1940. In 1942, he became Director, International Division, Services of Supply, War Department. He served as Commanding General, Sixth Service Command, from 1942 to 1944, when he went to the European Theater as Deputy Chief of Ordnance, Communications Zone. He was named Commanding General, Normandy Base Section, in 1944, and in 1945 was designated Commanding General, Services of Supply, United States Army in the China Theater. In 1946, he was named Commanding General, Africa-Middle East Theater, and in June of that year became Director, Research and Development Division, War Department General Staff. In January 1948 he was appointed Director, Service, Supply, and Procurement Division, General Staff, United States Army, later redesignated Logistics Division.

HOUSING FOR ARMY FAMILIES

By

LIEUTENANT GENERAL HENRY S. AURAND
Director of Logistics
General Staff, United States Army

DURING World War II, married servicemen took incredibly bad family housing conditions in stride, bearing with good spirit the usually crowded, often unsanitary, and always expensive hotel rooms, trailer camps, and shacks which could be rented more or less near the station. Unfortunately, the situation is little better today, more than three years after the end of the war; and the "good spirit" long since has worn thin.

Adequate family housing undoubtedly is Topic A in most conversations at posts, camps, and stations. It is also one of the highest priority problems before the Department of the Army. Severely critical before, it has become dangerously critical with the expansion of the Army.

Despite continuous efforts during the past three years, little immediate improvement can be expected. In the current fiscal year, about 1500 new, permanent-type family units will be built at Army installations. All of these will be the noncommissioned officer type, and they will be built only at permanent posts. Even with the construction of several thousand additional units in Fiscal Year 1950, still to be authorized, the Army would fall far short of its needs. The 947,000-man Army authorized by the Congress will need about 193,000 sets of family quarters—107,000 for noncommissioned officers and 86,000 for officers and warrant officers. Including the 1500 units to be built this year, there will be available only about 29,000 in the zone of interior, territories, and possessions. About half

Reprint available on request to the Editor, ARMY INFORMATION DIGEST, Armed Forces Information School, Carlisle Barracks, Pa.

of these are temporary or converted units. Including family quarters used by Army personnel in the occupied zones overseas, there are, in all, less than 40,000 units, against a need of 193,000.

The Department of the Army has made extensive studies and has established some basic guiding principles. The objective is clear-cut: To provide quarters on posts for all authorized military personnel—as rapidly as appropriations are made available by the Congress.

The policy on allocation of funds will be to concentrate on major installations—posts which may be expected to be active indefinitely, regardless of the size or mission of the Army. Meanwhile, all usable facilities elsewhere will be continually rehabilitated and kept in condition. The development of these permanent posts will be completed in accordance with a master plan set up immediately after World War II. In this plan, the posts of the permanent, peacetime Army were selected; and a planning board was established at each post to analyze the facilities and needs of the installation, according to its intended size and mission in the permanent plan. The plan, as originally formulated, envisioned the completion of development projects in an orderly fashion within ten years, at an outlay of around 10½ billion dollars. However, at the rate that construction appropriations actually have been made, this would have taken 50 or 60 years. Consequently, the Department of the Army decided to concentrate the limited appropriations, as available, on completing the development of major posts, rather than engaging in piecemeal construction over the face of the earth.

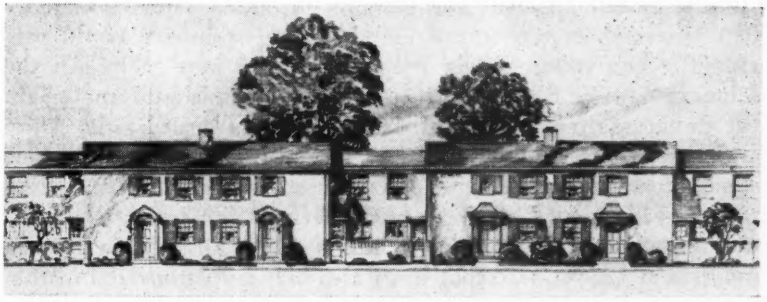
The type of housing to be built is based on recommendations made by the Corps of Engineers after broad investigation. Every type of permanent quarters was studied—from the detached, individual house to the six-story apartment building. In seeking the most for the money, the costly individual house and the duplex were eliminated. On the other hand, the least expensive type—the three-story walk-up apartment house—also was eliminated, for a number of reasons, including objections by The Surgeon General.

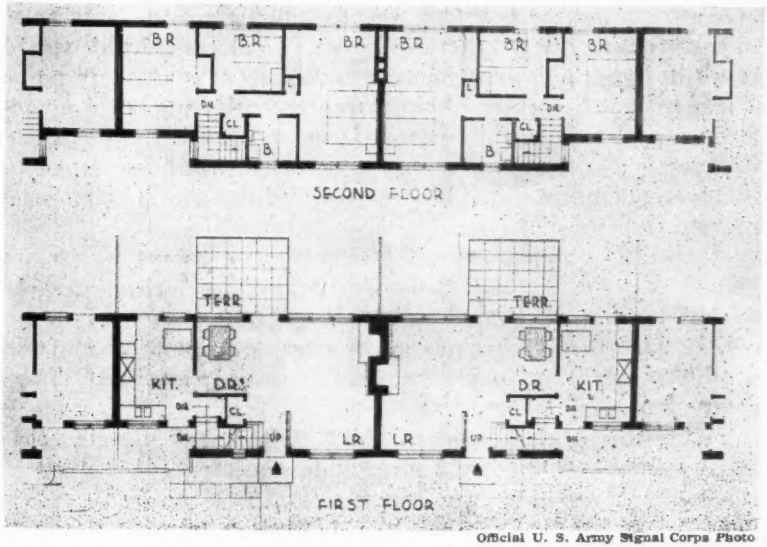
To provide the most economical, acceptable, best-for-all quarters, the Army decided on the multiple two-story (or row-type) house, wherein each family has a ground floor, second floor, basement, and individual yard in a garden-type development. The Corps of Engineers' design provides a minimum of common wall space and a maximum of windows, for adequate

cross ventilation. Normally, there will be eight units to a row. The architecture will conform to the style of the region and the post, but some form of masonry always will be used. This is the type of permanent quarters now being built.

The policy is to provide housing first for noncommissioned officers and junior officers, since they are least able to compete with civilians for housing on the open market.

In June 1948, the Congress, on the recommendation of the Army, passed a law specifying space limitations on family





Official U. S. Army Signal Corps Photo

The colonial style is most common in Army post architecture. Pictured above are four family units of the new eight-unit, row-type housing projects, in colonial style. Below is shown a basic floor plan (two family units) which will be standard for rows constructed with basements. This plan also has been adapted for rows without basements.

quarters, in lieu of the old monetary limitations. The latter have prevented construction of adequate housing because of current high costs. The space limitations are:

	Square Feet
Enlisted men	1080
Warrant officers, flight officers, and commissioned officers of and below the grade of captain	1250
Majors and lieutenant colonels	1400
Colonels	1670
General officers	2100

These limits apply to the space inside the exterior walls, excluding basement, attic, garage, and porches. The 1080 square feet allowed for noncommissioned officers' quarters would provide the equivalent of six rooms 12 by 15 feet each. In the same law, as a measure of economy in funds and materials, the Congress directed that all family housing built by the Army and the Air Force during Fiscal Year 1949 be limited to 1080 square feet, and be of multiple two-story design. Similar limitations were placed on Navy construction. This general policy undoubtedly will be continued in FY 1950; although a limited number of 1250-square foot units also may be authorized in that budget.

A separate effort is under way to interest private enterprise in constructing quarters for Army use. If successful, this would result in housing developments in urban areas near Army posts. The Assistant Secretary of the Army recently sponsored a conference with officials of several large insurance companies to investigate this possibility; and a directive has been issued to Army commanders to explore the possibility of interesting local private enterprise.

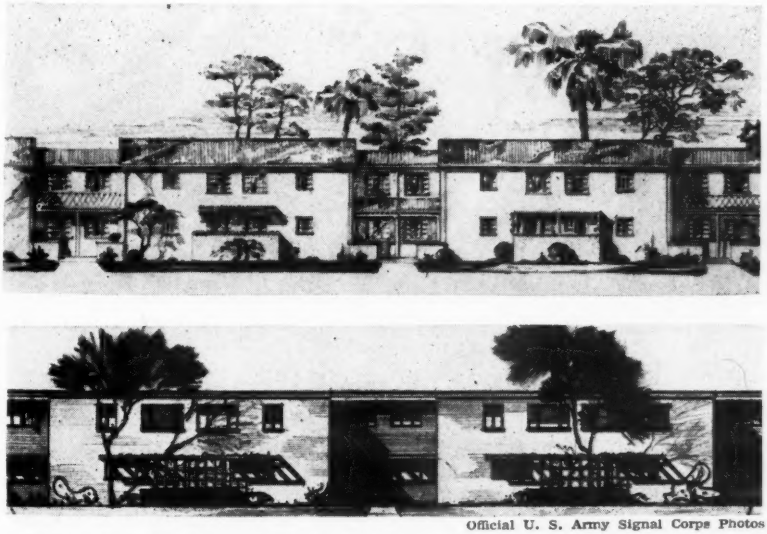
Meanwhile, immediate relief is needed at camps which are being activated as a result of Selective Service legislation. For example, Camp Pickett, Virginia, has eleven noncommissioned officers' quarters and five officers' quarters to meet an anticipated need of several thousand. Comparable shortages exist at all the camps being reactivated.

Facing this urgent problem, the Chief of Staff directed that emergency means be found to provide some type of housing at these camps, at little or no expense to the Government. After considering several alternatives, it was concluded that the most practical plan of universal application would be for the Department of the Army to provide first-class trailer camp facilities. These would include an individual lot, with a hard stand for each trailer; individual electrical and water connections; hard-

surfaced walkways; community baths, toilets, and laundry facilities; and parking areas. Military personnel would provide their own trailers. They would be paid the normal rental allowances, and would pay only for utilities and site rental—an estimated total expense of about $95 a year. This would leave sufficient funds, among all grades entitled to family housing, to carry the payments on a suitable trailer for the normal two-year period, after the usual one-third down payment, and to amortize the complete investment in three to four years.

This emergency plan was approved by the Chief of Staff early in September; and the Commanding Generals of the six Armies in the zone of interior have been directed to submit estimates of their requirements. These will be approved to the extent possible with the limited funds available.

For two years after World War II, there were no appropriations for construction of permanent-type family housing units at Army installations; so the years 1946 and 1947 were a period of conversion and temporary construction, to the extent of 12,800 units. These provided only slight relief, and at best were cramped, unsatisfactory quarters with a rapid obsolescence rate. By December 1947, there was little left to convert to family quarters. The temporary construction program was abandoned as an uneconomical use of funds.



Official U. S. Army Signal Corps Photos

These elevation views show half of a typical eight-unit row in Spanish style (above) and modern (below).

The Fiscal Year 1948 construction budget, including provision for new permanent-type family quarters, normally should have been enacted by June 1947. However, the Congress did not appropriate these construction funds until June 1948, when the fiscal year was all but ended. It is these funds that are now being used to build 1500 sets of 1080-square-foot type permanent quarters. The FY 1949 construction budget, which included provision for 4277 sets of family quarters of all types, was set aside because of delay in the passage of the previous year's budget. Currently, the Army is preparing its FY 1950 budget, which covers the period 1 July 1949 to 30 June 1950. In other words, a complete year of construction appropriations has been lost. It is hoped that this budget, as passed, will provide for considerably more than the 4277 sets of family quarters proposed in the FY 1949 budget.

The deep concern of the Department of the Army over the shortage of family quarters was expressed by Secretary of the Army Kenneth C. Royall in a recent statement: "We cannot expect people to continue to live under wartime conditions at our Army posts. Men were willing to be separated from their families during an emergency. They were willing to live in quarters far below the civilian standard for people of their relative scale of life. But it is too much to expect that condition to continue indefinitely."

Official U. S. Army Signal Corps Photo

Sub-standard rental housing occupied by military personnel. Three non-commissioned officers' families occupy the house in foreground.

ALL TOGETHER FOR NATIONAL DEFENSE

AT the call of the Secretary of Defense, the Joint Chiefs of Staff met at the Naval War College, Newport, Rhode Island, 20-22 August. This was the second such conference. The first—at Key West, Florida, in March 1948—set forth the principles of the National Military Establishment and areas of function of the three services. (See "Blueprint for Teamwork," ARMY INFORMATION DIGEST for May 1948.) The Newport conference re-examined the Key West Agreement and established certain specific areas of responsibility among the services.

"I venture to predict," stated the Chief of Naval Operations, following the meeting, "that when the history of the early days of the National Military Establishment is written, these conferences will be marked as the turning point, the time when the services actually were brought together by their first Secretary of Defense."

The results of the Newport conference were reported by the Secretary of Defense and by the military chiefs to a group of about 300 senior officers of the three services. Following are extracts from those reports.

Secretary of Defense Forrestal:

"At the top command levels, there is a clear understanding of the exclusive role of the Air Force in the field of strategic air warfare and, conversely, the intent of the Air Force not merely to permit but to seek all the help it can get from Naval Air in the use of airpower, either strategically or tactically.

"Likewise, the Navy is assigned the exclusive role in the field of antisubmarine warfare; and likewise the intent of the Navy also is to invite all the help it can get from the Air Force in carrying out this mission.

"However, these decisions, as reached, and the spirit of the conversations which took place, can only have force and meaning if they are followed through with the aggressive intent to build and not to mar mutual confidence.

"The decisions themselves reflect neither a victory for the Air Force nor a defeat for the Navy. Neither do they indicate a victory for the Navy nor a defeat for the Air Force. They do reflect my views and, if followed through with sincerity and tenacity, will mean a victory for the country.

"This Nation is confronted with the greatest series of tasks that has ever fallen to the lot of any nation in history. We are trying to rebuild the broken economies and shattered societies of nations over the globe and, in particular, we are trying to rebuild the political, economic, and social system of Europe so that its ancient culture and its history of freedom may be maintained.

"At the same time we are supporting, to the best of our ability, the United Nations as a possible future parliament of mankind. These efforts are costing us vast sums—around six billions this year, to be specific, for the economic recovery plan for Europe, with an implied commitment over future years which may total 16 or 17 billions.

"At the same time, being uncertain of future international developments, we are rebuilding our military power less than three years after we set out to tear it down. We start on that rebuilding without the slack in our economy which we had in 1940, when eight million people were unemployed and no one could even visualize shortages in basic raw materials. As of this month, we have a total employment of 61½ million persons, about 1½ million more than a year ago. We have scarcities which, in my opinion, may lead to rationing in some of the basic metals.

"To sum up, our military posture is related to the economy of this country. The decisions of the Key West and Newport conferences are a charted course, determining the effectiveness of this military posture. Deviations from this course of loyalty, either knowingly or unwittingly, contribute nothing to the country's welfare, but actually detract from our world standing."

General Bradley:

"The need for some clear agreement on our roles and missions does not come solely as a result of unification. In my opinion, it would be just as necessary for us to spell out our duties if we had three separate services rather than a single unified one.

"In the last two wars, each of us worked more or less by ourselves until the shooting started. Fortunately, we had the time to get ready while our allies fought. And eventually we did get together to work it out among us.

"As far as the chiefs of your services are concerned, we are all agreed on what we are trying to do. However, whatever we decide means little unless you are prepared to carry out the spirit of our agreements. There is nothing we can write, nothing we can say that will make this agreement work as it should, unless you are willing to get into the spirit of it.

"If every one of us will forget the color of the uniform he's wearing and think only in terms of national defense, we should have no trouble in sticking by and carrying out the decisions of the Secretary of Defense.

"As far as you Army members of the Joint Staff are concerned, I want you to get into this and remember that you are working for the security of this country. If there is a job to do and if someone else can do it better than the Army, then it is up to him to do it and take the job over from us. And if we can help him in any way, then that's what we are here for. This thing can work—let's make it."

Admiral Denfeld:

"The words of our understanding are clear and to my mind unequivocal. They will serve if they are interpreted properly, in a spirit of 'all for one and one for all.' Any agreement will work only if the personnel of each service work together with sympathy and understanding and really desire to make it work.

"The Joint Chiefs of Staff have agreed to and Mr. Forrestal has approved, basic policy which will prevent compartmentalization in our National Military Establishment. This will assure that there are no frozen concepts as to the future."

General Vandenberg:

"Prior to this more definitive statement, or interpretation of primary responsibility, each service has been more or less on the defensive to prevent possible encroachment on its sphere of interest. This defensive attitude has manifested itself in unhealthy, perhaps on occasion even unfriendly, contest or competition between the services. I believe this agreement *can* be a basis for the elimination of much of this trouble."

SCHOOLDAYS IN TOKYO

By

BERYL F. KENT

AT an American School for Dependents in Tokyo, a kindergarten class of five-year-olds was being taught to sing nursery rhymes. "Teacher," piped one of the youngsters, 'we know other words to that song." Then, at the teacher's urging, the children chimed in unison, *moshi moshi ano ne*—the Japanese version of "London Bridge is Falling Down."

Schooldays—even under routine conditions a difficult period of adjustment for student, teacher, and parent—has its share of unusual variations overseas. Take, for example, an American school established on foreign soil; mix Army and civilian children in classrooms; staff the faculty with school teachers from the States; and you may discover, as we have in Tokyo, that you have produced an educational system that is stimulating to the students, refreshing to the teachers, and productive of real educational achievement.

Serving the children of military and civilian personnel in the Tokyo area are one high school and two elementary schools, with a combined faculty of more than 60 teachers. The high school principal is an Army major, while the elementary schools are headed by civilian women educators. Each member of the faculty was hand-picked. Most of them were recruited in the States by Miss Ruth M. Hamill, one of the elementary school principals, who made several trips for that purpose. Of more than 1000 applicants interviewed by Miss Hamill, 160 of the best qualified were selected—60 for duty in Tokyo, the others for assignment elsewhere in Japan. Selections were based on the applicant's scholastic accomplishment, personality, stability, adaptability, maturity, and sense of humor. In addition to United States citizenship, each teacher holds a college degree,

BERYL F. KENT, news writer in the Public Information Office, General Headquarters, Far East Command, was among the first women recruited for oversea assignment after Japan's surrender. Miss Kent was with "The Washington (D. C.) Post," before going overseas.

has completed at least 18 units in education courses, and possesses a valid state teaching license After arriving in Tokyo and before appearing in class, all were briefed in the special problems of their oversea assignments.

Their students, numbering about 1000, and ranging in age from five to twenty, represent an unusually attractive and alert group. Many are veteran travelers who received their earlier scholastic training at Army posts in the United States, Panama, and Hawaii. A few speak English as a second language. Besides the United States, countries represented by students include: England, France, China, the Philippines, and Holland.

This cosmopolitan group—children of military and civilian families alike—attends schools that have all the facilities and modern equipment of their Stateside counterparts. The two elementary schools in Tokyo were especially built in the two large dependents' housing areas. Classrooms are modern in design, equipped with steam heat, cupboards. cloakrooms, and built-in library shelves. Ceiling-high windows provide unilateral natural lighting. Each school has its library, study room, music room, large cafeteria, and an auditorium seating 300.

Kindergarten and first-grade rooms, on the ground floor level, open onto enclosed, outdoor, landscaped playgrounds. Here,

Official U. S. Army Signal Corps Photo.

Registering for the new term at a Tokyo elementary school.

under supervision, the children learn to use playground equipment and to cooperate in their play. Lunchtime provides more opportunity for integrated group training. Although some children return home at noon, more than 500 remain to dine with the teachers in the cafeterias.

At all levels, studies correspond with subjects taught in parallel grades in the States. In addition to the prescribed reading, writing, and arithmetic, physical training classes for all students are held daily. Under guidance of a dancing teacher, the children are introduced to rhythm, folk, tap, and social dancing. Of special interest are the rhythm classes for boys, designed for muscular training and to develop skill in games. Ballet classes are held for the girls.

Under the tutelage of the American faculty, the children follow the Calvert system, a course of studies specially planned to meet the needs of Americans living in foreign countries where no schools are available. The same curriculum is currently in use in American schools throughout Japan, so that no matter where children are transferred their studies will not be interrupted.

Results of standard achievement tests given to the elementary school children show that they are three-quarters of a year ahead of the normal grades for their respective age groups. Also, the non-measurable acts which these school children perform indicate the quality of their character development. At one of the elementary schools, for example, the students initiated a drive to collect books and magazines for Japanese free public reading rooms, and obtained more than 2000 English-language magazines and books.

The lessons in character development are not always taught by the teacher. When an unusually bright child in music class demanded to be leader of the chorus because of his father's rank, the teacher wisely kept out of the ensuing dispute. Nor did the child become a leader until he had earned that distinction on his own merit.

The upper grade students are benefiting from the unusual opportunity of attending an American school in a foreign country. Not only does their curriculum include the standard basic subjects of history, geography, foreign languages, the sciences, social studies, arts, and music; they also are receiving practical experience in the additional responsibility of teaching the Japanese people our democratic form of life. From time to time,

Japanese teachers and students visit the classrooms to see what is going on, so that they may introduce modern American methods of teaching in Japanese schools. At all times, students conduct themselves in such a way as not to embarrass possible visitors. Lessons in kindness and tolerance are part of the daily learning process. "We are trying," says the principal, Major Herbert S. Ingraham, "to develop ourselves in all fields, socially and scholastically."

From its inception, the dependents' school system has been the result of democratic enterprise. Two years ago, there were no schools in Tokyo for American children. Responding to the need, the American occupation community—then numbering about 30,000, among them 2000 families with children—was determined that their children should receive the same type of schooling that was available in the States. Banding together, they conducted a drive for the necessary funds. So enthusiastic was the response that the $50,000 goal was surpassed, and $100,000 was realized before the campaign ended. At that time, dependents' schools were supported entirely by private tuition. Last year, however, the Army made available funds from Government appropriations for relief in occupied areas (GARIOA), to help defray tuition costs.

A Parent-Teachers Association was soon formed and parents were organized into committees to obtain the best possible edu-

Official U. S. Army Signal Corps Photo.

Recess at the Yoyogi American elementary school.

cational development for their children. The first school building selected, now the Tokyo American High School, was, in pre-war days, a private school for children of Americans and foreigners. During the war, the Japanese commandeered it for use as a modern language institute for natives from the South Sea islands. After the Army finished repairing, repainting, and renovating it with modern trimmings, the school was a thing of beauty. Set in an attractive landscape, with four acres of unbombed campus, football field, and tennis court, the school had 12 classrooms, an auditorium, library, and gymnasium.

When school opened that September, the necessary textbooks were still on the high seas. However, a sizable collection of books which had been stored away in the school's basement since 1941 was unearthed.

At first, there was only one class at each grade level. Three months later, increased enrollment made it imperative to open another section for each grade. And in two more months, the total enrollment of 500—far exceeding the school's estimated capacity of 175 pupils—made additional registrations impossible. Before the year ended, dormitory rooms, store rooms, and even cloak rooms were being utilized as classrooms.

Currently, school space is being further expanded. In addition to three modern schools, another high school, now being built, is scheduled to open soon.

The first graduating class, last year, was composed of 12 students. This year the graduates numbered 32. A scholarship of $350, donated by the class of '47, was presented to the outstanding graduate for college tuition use.

Many former Tokyo American School students are continuing their education in colleges and schools in the States. There is no doubt among the faculty that these students—at the high school and elementary levels—will adjust themselves readily at their proper grade levels in neighborhood schools when they return to the United States.

The teachers are in agreement that, as a general rule, there is no appreciable difference between these children and the youngsters whom they had taught in Stateside schools. "If anything," said one teacher, "the Army child may be better adjusted, since he has learned to get along in many different environments. He learns first-hand, from the people around him, customs, habits, and ways of living radically different from his own. It is through this type of experience that the Army child has learned world citizenship."

The World of A Strategic Air Force

From the Report of General Carl Spaatz, Chief of Staff, USAF, to the Secretary of the Air Force, 30 June 1948

THE primary role of military air power is to attack—not other aircraft, but targets on the ground that comprise the source of an enemy's military strength. In the main, those targets are industrial: oil refineries, steel mills, engine factories, electric power plants, aluminum smelters, or whatever may be important to military effort. From them flow the arms and weapons, the fuel and ordnance—in short, everything necessary to maintain a fighting force in the field, on the sea, or in the air. Because air power can cut off the flow of the enemy's military strength at its source it can be decisive in war. Because such decisive action should be the foremost aim of air power in war, the area in which those targets lie and over which the attacking aircraft fly to reach them could rightfully be termed the world of air power.

There are eight great industrial areas in the world today of

sufficient productivity to be significant factors in a full-scale war. These eight areas center upon Japan, central Siberia, the Ural Mountains, Moscow, the Don Basin, western Europe, the British Isles, and northeastern United States. All of these key areas lie above 30° north latitude, and the two great land masses on which they are located—the Eurasian and North American continents—have one region of common tangency: the Arctic Ocean with its impassable ice cap. Although the polar ice cap is impassable to ships or surface forces, it offers no barrier to aircraft flying above it. The shortest air route between the central United States and the Urals, between Alaska and Germany, or between Greenland and Japan lies directly over the polar region. Clearly, the whole cap of the world, from the thirtieth parallel to the North Pole, is the world of air power.

Until the ranges of aircraft . . . increase greatly and until their speeds become far higher, aircraft taking off from one land mass to attack targets located on the other will fly to them directly from their bases and return by the shortest route. In every case, such a direct flight would carry the attacker across the Arctic or sub-Arctic area. Even a hypothetical bombing mission flying from western Europe to industrial targets in the United States would pass not far from the tip of Greenland and would cross Labrador. In the world of air power, then, the Arctic regions assume the strategic importance hitherto attached to Gibraltar or the Panama Canal.

. . . The areas strategically important to the exercise of air power . . . can be defended only to a limited degree by placing superior fire power in the form of interceptor aircraft and anti-aircraft artillery to command the approaches to the strategic area. In World War II, it was clearly shown that a determined attacking force cannot be stopped short of its target. . . While defensive air power can do much to minimize the effectiveness of an aerial attack, the present capabilities of air weapons do not alter this World War II lesson. The defense of the Arctic approaches to the United States, therefore, cannot rest solely upon fast interceptor fighters and the artillery that would help to defend their bases. The ultimate defenses available to the United States for protection from aerial attack from over the top of the world lie in the maintenance of a striking-force-in-being that could answer aerial aggression with a smashing retaliatory attack.

To achieve such a defense, it is obvious that the Air Force

must possess defensive aircraft that can operate effectively under the climatic conditions of the far North. There must also be available to that defensive force a system that will warn of an attack in time to take counter measures. Such a system would combine adequate intelligence with early warning radar devices. Finally, there must be the long-range striking force, possessing aircraft that can make the long trip from existing bases across the polar wastes to the enemy's industrial complexes and return.

The United States Air Force has long been aware of the strategic importance of the Arctic regions. . . . Progress has been made in the winterization of fighter aircraft. Research and Development has taken significant steps toward the achievement of radar equipment that can give a warning in ample time to alert the defenses. And now bombardment aircraft are becoming available to Air Force groups that will enable them to reach, in limited operations, most of the industrial complexes of the Eurasian continent. The aircrews who would fly them on their transpolar missions today are being trained in the techniques of Arctic flying.

The importance of the Air Force's understanding of the Polar Concept and of the vigorous approach it is making to develop the weapons needed . . . is underscored doubly by the existence of the atomic bomb. The fact, accepted by all military thinkers, that a future major war would commence with an aerial attack is given particular importance because, if such an attack were carried out with atomic bombs, its result might well be decisive.

The tremendous multiplication of destructive power that the atomic bomb gives to aircraft, together with the constant shrinkage the globe is undergoing with each increase in the ranges and speeds of aircraft, lends an urgency to the solution of the defense problem that the United States has never before known in time of peace. A final factor . . . must be considered if the importance of the United States' ability to defend its Arctic approaches is to be fully appreciated. Whereas the industrial complexes of the Eurasian continent are widely dispersed throughout its great breadth, the main industrial strength of the United States is concentrated in the area enclosed by lines connecting the Connecticut Valley, Pittsburgh, Chicago, and Detroit.

THE ENGINEERS LOOK TO THE FUTURE

By

COLONEL JOHN C. ARROWSMITH

PREPARING for the day after tomorrow is today's business at the Engineer Research and Development Laboratories, Fort Belvoir, Virginia. Here, on the heights overlooking the Potomac River, more than 900 civilian and military personnel—machinists, mycologists, chemists, photogrammetrists, lithographers, artists, and engineers—are developing, testing, and evaluating the Engineer equipment for our postwar Army.

"Nothing is new; everything is potentially obsolete. Nothing is perfect; it is merely better"—is their credo. Their research and development activities range from the study of fungi to the testing of bulldozers and heavy earth-moving equipment. All manner of Engineer equipment is studied with a view to enhancing its air transportability, adaptability to extreme climatic conditions, and economy of operating personnel.

With lighter and more compact equipment the order of the day, the search continues for lightweight alloys, plastics, and new materials. While ruggedness in Army equipment still is a prime prerequisite, it is estimated that much field equipment will have served its purpose if it can maintain its efficiency for three to five years—the normal span of usefulness—before the cancer of obsolescence sets in.

The basic purpose of the Laboratories is four-fold: the development of new Engineer equipment for military use; the improvement of existing equipment; the adaptation of commercial engineering equipment to military uses; and the evolution of techniques for utilizing this equipment. Some of the research load is borne by civilian institutions, through contract arrangements with educational institutions, with private research foun-

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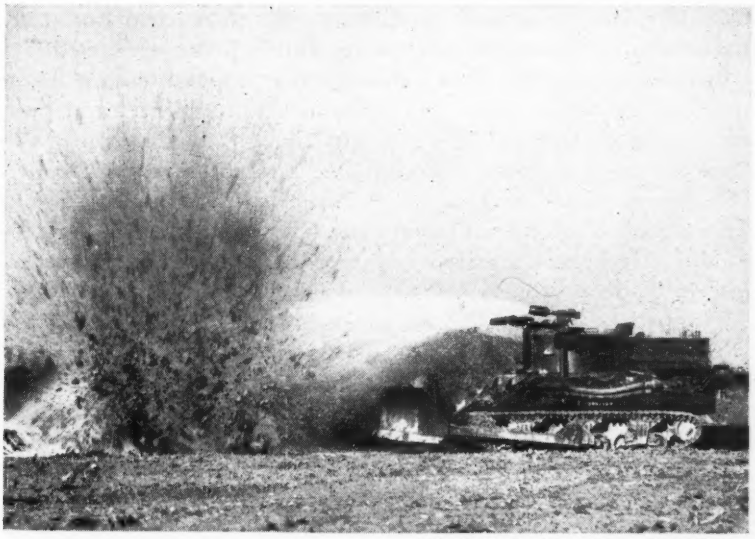
dations, and with the vast laboratories maintained by private industry. The Engineer Research and Development Laboratories supply the impulse for all such approved projects.

The Laboratories are organized into six operational departments which perform the technical phases of research and development. The department chiefs, together with the Commanding Officer and his Executive for Research, comprise the Research Council, a body which formulates policy and reviews project reports before submitting them to the Chief of Engineers. An administrative department handles office service, procurement, property, and supply. Independent branches are set up to handle security matters, patents, contracts, finance, cost records, project control, planning and statistics, liaison with outside agencies, and operation of a technical library.

The Engineer Research and Development Laboratories maintain, in the Fort Belvoir area, shops, warehouses, a ponton basin and a boat house. Among the special laboratories devoted to research and testing, the Water Supply Laboratory studies hydraulics; methods of water purification, distillation, and supply in the field; and items of water supply equipment.

The Reflector Research Laboratory makes experimental models of reflectors, from precision three-inch jobs up to the 60-inch



Official U. S. Army Signal Corps Photo.

An experimental "fire-dozer" works out at Fort Belvoir,

standard searchlight size. At the beginning of World War II, when the suddenly increased demand for 60-inch electroformed reflectors was greater than limited commercial facilities could produce, the Reflector Research Laboratory for a time actually manufactured most of the Army supply. Currently, the Reflector Research Laboratory is perfecting deposition coatings. It has developed an iron-electroformed reflector which not only utilizes a readily available metal, but is lighter and stronger than the copper-electroformed article. By coating reflectors with aluminum, instead of the usual rhodium, reflectivity has been increased up to 90 per cent.

The Materials Laboratory studies camouflage paints, fungicides, synthetic rubbers, alloys, and plastics. In locally developed ovens, synthetic halide crystals are formed for improving lenses and other elements of infrared detecting equipment. Even the chemicals used in their manufacture must be purified here, since the commercial products are too impure for the exacting nature of the work.

The Chemical Laboratory is equipped for inorganic analysis and synthesis, as well as for the analysis of fuels and lubricants. Engine tests are conducted to determine the efficiency of cold-resistant lubricants. In the X-Ray Laboratory, a quarter-million volt industrial machine is used to determine flaws in new alloys and structural equipment. The Electrical Engineering Laboratory tests electrical power and lighting equipment.

In the Temperature Test Laboratory, a tropical testing chamber faithfully reproduces the temperature, humidity, and even the fungus of tropical areas. Here the mycologists study the causes of tropical deterioration due to fungi. Paints, varnishes, and special protective coatings are exposed in the musty, sweltering chamber, along with equipment of other arms and services —shoes, clothing, optical lenses, fuses, and other items vulnerable in tropical climate.

Two other chambers can produce natural or accelerated weather conditions, from -70° to 150°, with varying humidity and air pressure. Conditions of the tropics, desert, arctic regions, or high mountains can be simulated, with a wind factor thrown in, if desired. The larger of the two chambers can accommodate vehicles as large as a 6 x 6 truck. Personnel working in these pressurized chambers must enter and leave through a decompression chamber, just as do deep-sea divers.

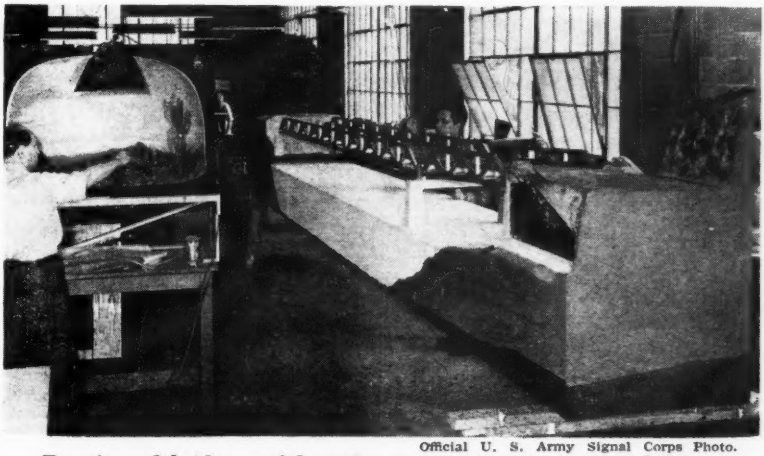
The Photogrammetry Laboratory contains facilities for preparing planimetric and topographic maps, mosaics, and photo-

maps from aerial photography. Equipment and methods for all phases of military mapping are studied and improved. Field tests are conducted by the Army Map Service and by troop units in the field. Research is under way to find a substitute for paper and other materials which stretch, warp, shrink, or otherwise change shape when used as a map base—with a consequent distortion of distances and direction factors. A base material of plexiglass is currently being tested. If experiments are successful, this type of material also may be used as a base for photographic mapping film.

The Processing and Packing Laboratory studies new techniques in preparing, processing, and packaging materials for preservation and for shipment. Experiments in packaging and shipping equipment in units, including all component and essential replacement parts, are directed to the more efficient supply of troops in the field.

At the Minefield Test Area, cross-sections of soils from many parts of the world are reconstructed and tested, to simulate actual conditions.

Many items of Engineer equipment, developed at the Laboratories from initial idea to pilot and test models, are fabricated on the spot. Parts for most pilot models, or mock-ups—from finely machined precision instruments to vehicle bodies, metal boats, bridging equipment, and the like—are produced in the woodworking, sheet metal, or machine shops. Terrain models, relief maps, working scale models, and full-size plastic models



Official U. S. Army Signal Corps Photo.

Terrain and bridge models under construction in the Model Shop.

for demonstration, study, and training purposes also are produced locally. Many specialized testing machines have been developed by members of the Laboratories staff.

Although the greater part of the Laboratories' facilities are concentrated at Fort Belvoir, additional test stations have been set up for the study of specific climatic and terrain conditions. A Distillation Station is maintained at Fort Story, Virginia, on the Atlantic Coast. In cooperation with the Canadian Army, arctic testing is conducted at Fort Churchill, Canada. On a 13,500-acre tract at Yuma, Arizona, a Test Branch studies the durability of bridge equipage under controlled water flow conditions up to 11 feet per second and more. Liaison in aerial photographic matters is maintained at Wright-Patterson Air Force Base, Ohio. In addition, standby facilities at nearby A. P. Hill Military Reservation are used for testing demolitions. Much useful and original knowledge already has been acquired in the fields of petroleum distribution, water supply and purification, ground control, and fixed and floating bridges.

So much is happening over extended periods and distances, that progress reports in certain fields are filmed in color and sound, when warranted, by the Motion Picture Laboratory. A small theater is used by the staff for reviewing these pictorial reports.

The entire range of Engineer Research and Development activity is geared to a single concept—to provide the most advanced devices, techniques, materiel, and counter measures for the use of the Army. The goal is the development of weapons and equipment of proved types, superior in every respect, that will prove their value in the showdown of total war.

If the United States is to maintain her leading position in the field of weapons and equipment, ceaseless and unstinting research is necessary—research and testing of our military and commercial equipment and of foreign equipment, as well as research into the basic causes of phenomena. There can be no compromise with preparedness.

THE ARMY'S POSITION IN GERMANY

As a soldier, it is not my job in Germany to carry us into war. It is my job in Germany *not* to carry us into war; and as a soldier I will not carry us into war. That is a decision that will be made by the Government, if it is ever made, and not by us in Germany.

From a statement by General Lucius D. Clay

THE NAVY'S FLEETS

By

LIEUTENANT COMMANDER JOHN C. PARRY, USN

THE Navy's standing objective is control of the seas. This will remain unchanged as long as men, equipment, or materials must be transported on, over, or under the seas.

In the event of war, our trade lanes must be kept open, and our supply and transport lines must be secured; and those of the enemy must be severed. There are numerous ways in which our lines can be attacked, but for each there is a weapon for defense and counterattack. Destroyers and light escort craft, in conjunction with aircraft, are used against the submarine; aircraft carriers, radar picket and antiaircraft ships against the airplane; cruisers, aircraft carriers, and battleships against the surface ship; minesweepers against the mine; and guided missiles—directed from submarines, surface ships, and aircraft—are employed against all types of enemy offense.

The operating forces of the Navy are composed of the active Atlantic and Pacific Fleets, with their subsidiary commands in the Mediterranean and Far East. Each fleet is built around one carrier task group, each such group consisting of four of the largest and most powerful aircraft carriers afloat, with supporting numbers of cruisers, destroyers, and auxiliaries. In addition each fleet has one ready Marine division, 4 squadrons of submarines, with approximately 10 submarines in each squadron, 20 squadrons of long-range search and antisubmarine aircraft, and hunter-killer antisubmarine groups.

Detachments of these fleets make up smaller forces on special duty in other areas. In the Far East, such a force is present for the support of our occupation of Japan and Korea, and for enforcing the surrender terms. The Naval Force in the Western Pacific is currently composed of 3 cruisers, 12 destroyers, and 40 supporting vessels of various types. In the

LIEUTENANT COMMANDER JOHN C. PARRY, USN, is Chief, Writing Section, Office of Public Relations, Executive Office of the Secretary of the Navy.

Mediterranean, to fulfill similar obligations and support our occupation forces in Germany and Trieste, is a force of 1 carrier, 4 cruisers, and 12 destroyers.

As in World War II, particularly in the Pacific, amphibious forces will have to capture permanent air bases at advanced island or inland locations; or will have to capture sites where such bases could quickly be constructed. In any amphibious operation—spearheaded by air power, with the submarine and guided missile ship each playing an important role—the advantages won by airpower must be promptly followed up by invasion and occupation. This is the case particularly where an enemy nation of large land area is concerned. Thus the three primary Naval considerations are: (1) carriers and carrier-borne aircraft; (2) amphibious forces, including landing craft and specially designed transports (and highly trained Marines); and (3) antisubmarine forces, including destroyers, certain types of aircraft, and electronic detecting devices.

Although, in such a cone-built operation, the emphasis may be placed on air, amphibious, and antisubmarine forces, other types of ships will continue to be needed until pilotless fleets and atomic propulsion are realities.

Submarines become increasingly important as their potentialities are developed. Long submersion at high speeds, increased capacity, greater depths of submergence, and less vulnerability to atomic attack make them a weapon the possibilities of which are only now becoming apparent. In the hands

ACTIVE AND RESERVE FLEETS

ACTIVE		RESERVE
11	CARRIERS	16
9	LIGHT CARRIERS	66
2	BATTLESHIPS	14
31	CRUISERS	42
148	DESTROYER TYPES	416
76	SUBMARINES	99
277	SUB-TOTAL MAJOR COMBATANT	663
488	MINE, PATROL, AMPHIBIOUS AND AUXILIARY TYPES	1215
765	GRAND TOTAL	1878

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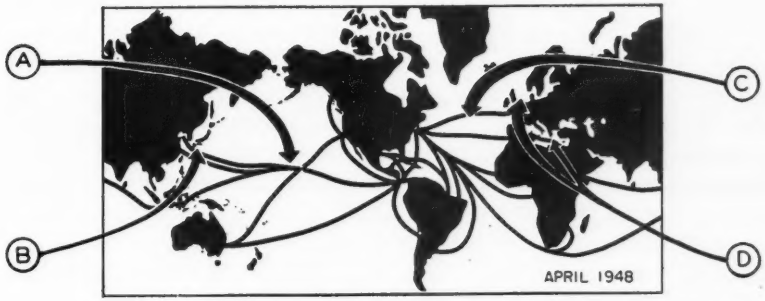


A — PACIFIC FLEET

CARRIERS	5
LIGHT CARRIERS	3
BATTLESHIPS	1
CRUISERS	9
DESTROYER TYPES	57
SUBMARINES	34
MISCELLANEOUS TYPES	237

C — ATLANTIC FLEET

CARRIERS	5
LIGHT CARRIERS	6
BATTLESHIPS	1
CRUISERS	9
DESTROYER TYPES	65
SUBMARINES	41
MISCELLANEOUS TYPES	209

B — WESTERN PACIFIC AND JAPAN

CRUISERS	3
DESTROYERS	12
SUBMARINES	1
MISCELLANEOUS TYPES	39

D — EUROPEAN AND MEDITERRANEAN

CARRIERS	1
CRUISERS	4
DESTROYERS	12
MISCELLANEOUS TYPES	3

of an enemy, tomorrow's long-range super-submarine will be more dangerous to us than the most daring and skillful wolf-packs that terrorized Atlantic shipping in World War II. The first use of long-range guided missiles may be from the submarine, thus, in effect, converting even a short-range rocket into a transoceanic missile.

The fast carrier task force has become the backbone of the fleet. These powerful striking forces—carriers, cruisers, and destroyers—are actually mobile air bases, capable of going anywhere accessible by sea, and launching air attacks of wide radius from advanced positions. With these carrier task groups, the Navy establishes off shore, anywhere on the seas, moving "airfields" (completely equipped with machine shops, fuel depots, arsenals, hangars, and quarters) to support amphibious attacks and to control the sea lanes.

We have two such task groups—one in each ocean—with additional carriers to carry out detached duty without weakening the main forces, and to insure that overhauls, repairs, and periodic modernizations can keep one or two in the yards at all times without decreasing the number in each task group.

The new weapons we are continually developing and perfecting must be tested and proven under operating conditions—

afloat—before the time and expense of incorporating them in fleet units is undertaken. For this purpose the Navy maintains, first, great research laboratories; then, shore proving grounds; and, lastly, an Operational Development Force, composed of several ships of each type, for testing new weapons and equipment as they leave the shore testing areas. These prototype weapons represent all types of offense and defense in the Navy's operations—on, under, and above the seas, and in amphibious operations. If tests show improvement over current types, they serve as the patterns for new construction, and for replacement in the fleet.

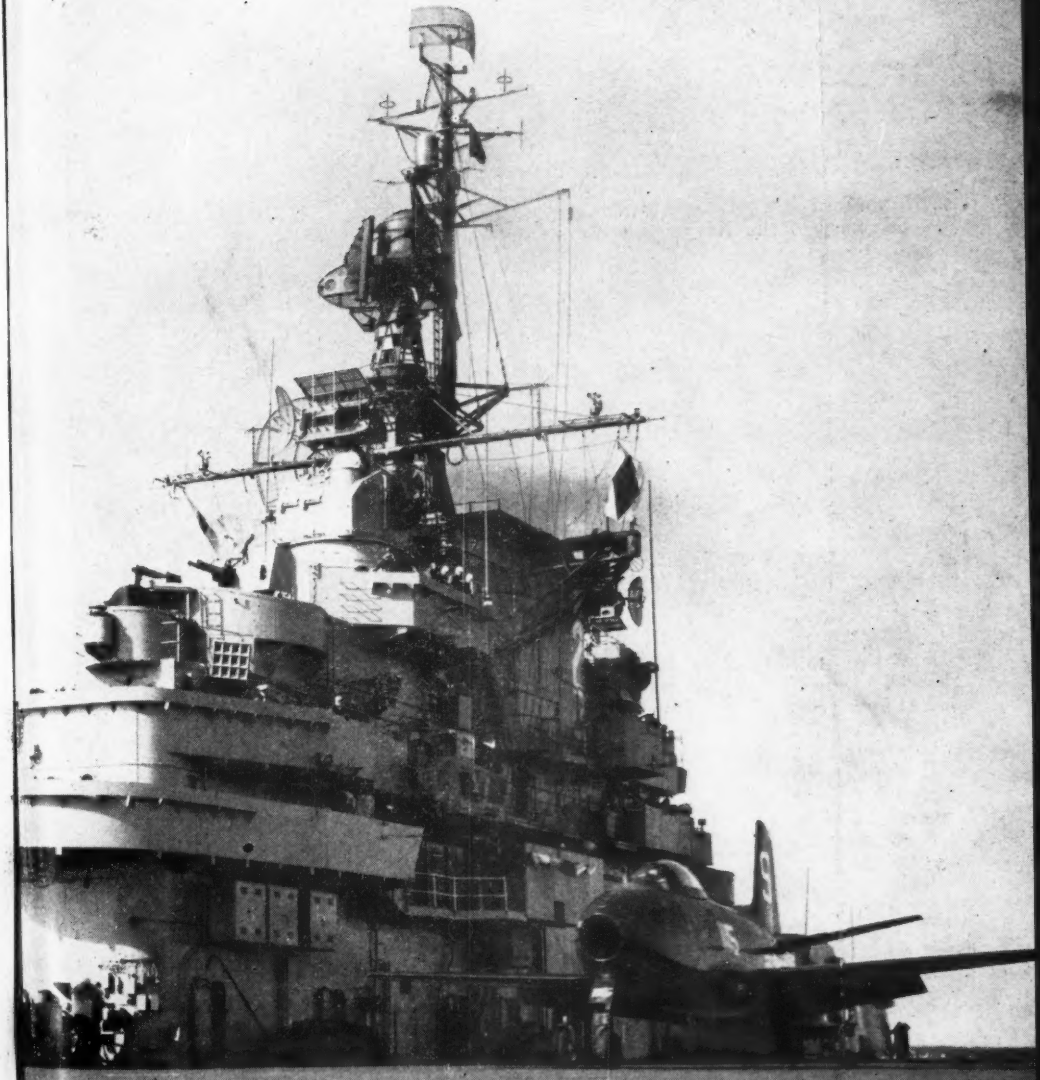
A good example of the air-sea team, utilized in the detection and destruction of enemy undersea marauders, is the so-called "hunter-killer" group, composed of an escort aircraft carrier (CVE), its planes, and supporting destroyers. Carrier aircraft or long-range land planes track down the submarines and direct the destroyers to the point of contact. The destroyers then finish the U-boat with depth charges or gunfire.

These are our ready operating forces. Their support—supply, repair, training, and all the other activities that contribute to their efficiency—is the mission of the Shore Establishment and the Navy Department in Washington.

Official U. S. Navy Photo

Greyhound of the fleet.

THE NAVY TEAM



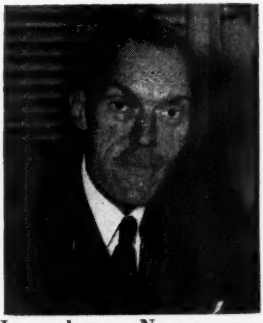
EXECUTIVE AND CO

THE HONORABLE JOHN L. SULLIVAN
Secretary of the Navy

HON. W. JOHN KENNEY
Under Secretary of
the Navy

Data in this special pictorial section corrected to 15 September 1948. All photographs appearing here are official U. S. Navy photos.

HON. MARK E. ANDREWS,
Assistant Secretary of the
Navy



HON. JOHN NICHOLAS
BROWN, Assistant Secre-
tary of the Navy (Air)

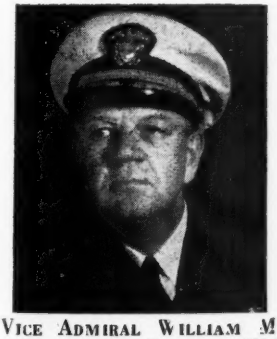
JOHN H. DILLON, Admini-
strative Assistant to the
Secretary

REAR ADMIRAL EDWARD C.
EWEN, Chief of Public
Relations

ND COMMAND TEAMS

ADMIRAL LOUIS E. DENFELD
Chief of Naval Operations

VICE ADMIRAL ARTHUR W. RADFORD, Vice Chief of Naval Operations



VICE ADMIRAL WILLIAM M. FECHTELER, Deputy CNO (Personnel)

VICE ADMIRAL ROBERT B. CARNEY, Deputy CNO (Logistics)

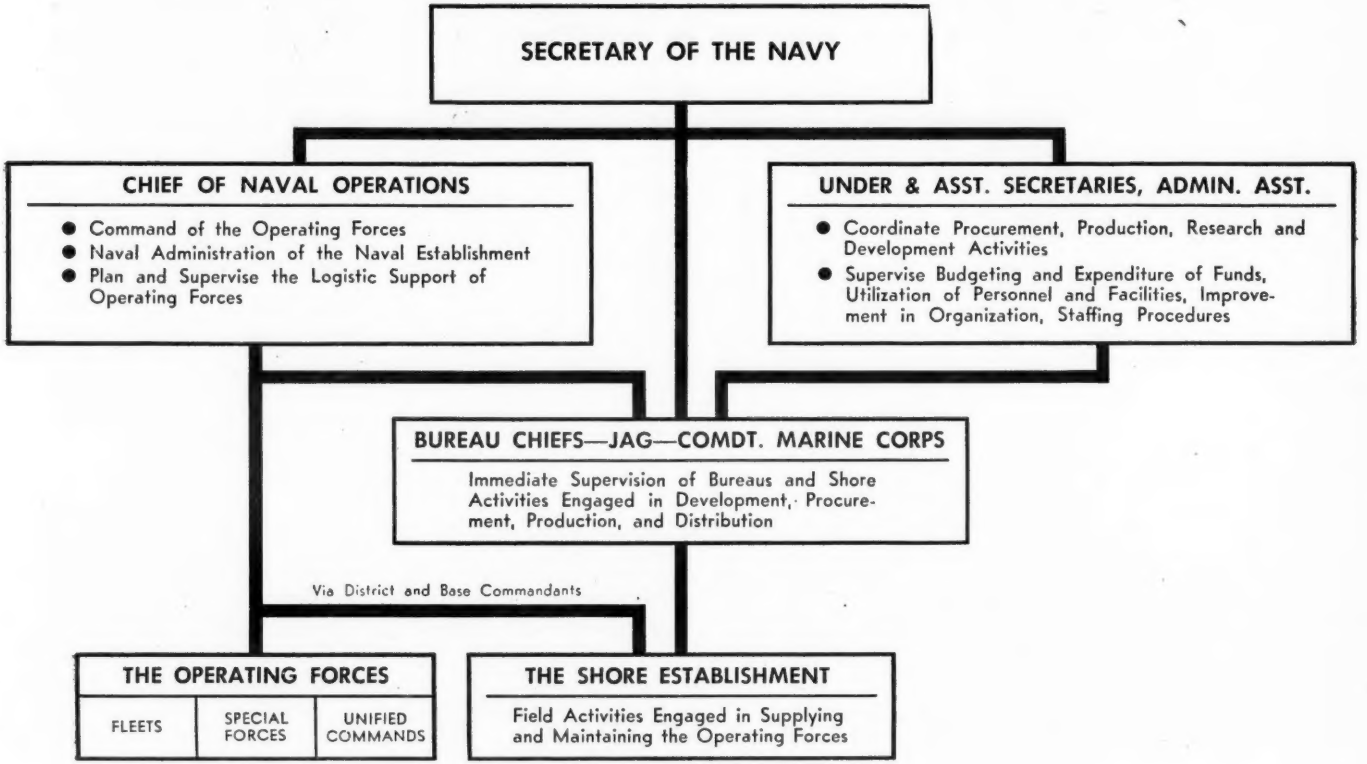
VICE ADMIRAL JOHN D. PRICE, Deputy CNO (Air)

VICE ADMIRAL ARTHUR D. STRUBLE, Deputy CNO (Operations)

REAR ADMIRAL LEO H. THEBAUD, Naval Inspector General

REAR ADMIRAL CHARLES WELLBORN, JR., Deputy CNO (Administration)

Operating Organization of the Naval Establishment


SECRETARY OF THE NAVY
CHIEF OF NAVAL OPERATIONS
Command of the Operating Forces
Naval Administration of the Naval Establishment
Plan and Supervise the Logistic Support of Operating Forces
UNDER & ASST. SECRETARIES, ADMIN. ASST.
Coordinate Procurement, Production, Research and Development Activities
Supervise Budgeting and Expenditure of Funds, Utilization of Personnel and Facilities, Improvement in Organization, Staffing Procedures
BUREAU CHIEFS—JAG—COMDT. MARINE CORPS
Immediate Supervision of Bureaus and Shore Activities Engaged in Development, Procurement, Production, and Distribution
Via District and Base Commandants
THE OPERATING FORCES
FLEETS
SPECIAL FORCES
UNIFIED COMMANDS
THE SHORE ESTABLISHMENT
Field Activities Engaged in Supplying and Maintaining the Operating Forces

NAVY TECHNICAL TEAM

General Clifton B. Cates, Commandant, Marine Corps

Vice Admiral Earle W. Mills, Chief, Bureau of Ships

Rear Admiral John J. Manning, Chief, Bureau of Yards & Docks

Rear Admiral Albert G. Noble, Chief, Bureau of Ordnance

Rear Admiral Thomas L. Sprague, Chief, Bureau of Personnel

Rear Admiral Edwin D. Foster, Chief, Bureau of Supplies & Accounts

Rear Admiral Alfred M. Pride, Chief, Bureau of Aeronautics

Rear Admiral George L. Russell, Naval Judge Advocate General

Rear Admiral Clifford A. Swanson, Chief, Bureau of Medicine & Surgery

NAVY OPERATING TEAM

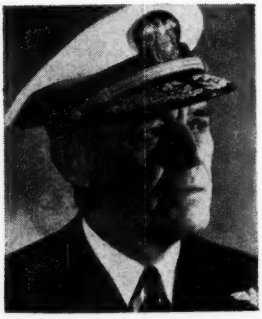
ADMIRAL THOMAS C. KINKAID, Commander, Eastern Sea Frontier

ADMIRAL DEWITT C. RAMSEY, Commander-in-Chief, Pacific Fleet

ADMIRAL RICHARD L. CONOLLY, Commander, Naval Forces, Eastern Atlantic & Mediterranean

ADMIRAL WILLIAM H. P. BLANDY, Commander-in-Chief, Atlantic Fleet

VICE ADMIRAL RUSSELL S. BERKEY, Commander, Naval Forces, Far East



VICE ADMIRAL GEORGE D. MURRAY, Commander, Western Sea Frontier

VICE ADMIRAL GERALD F. BOGAN, Commander, First Task Fleet

VICE ADMIRAL DONALD B. DUNCAN, Commander, Second Task Fleet

A GUARD DIVISION TRAINS FOR M-DAY

By

CAPTAIN THOMAS R. NEVITT

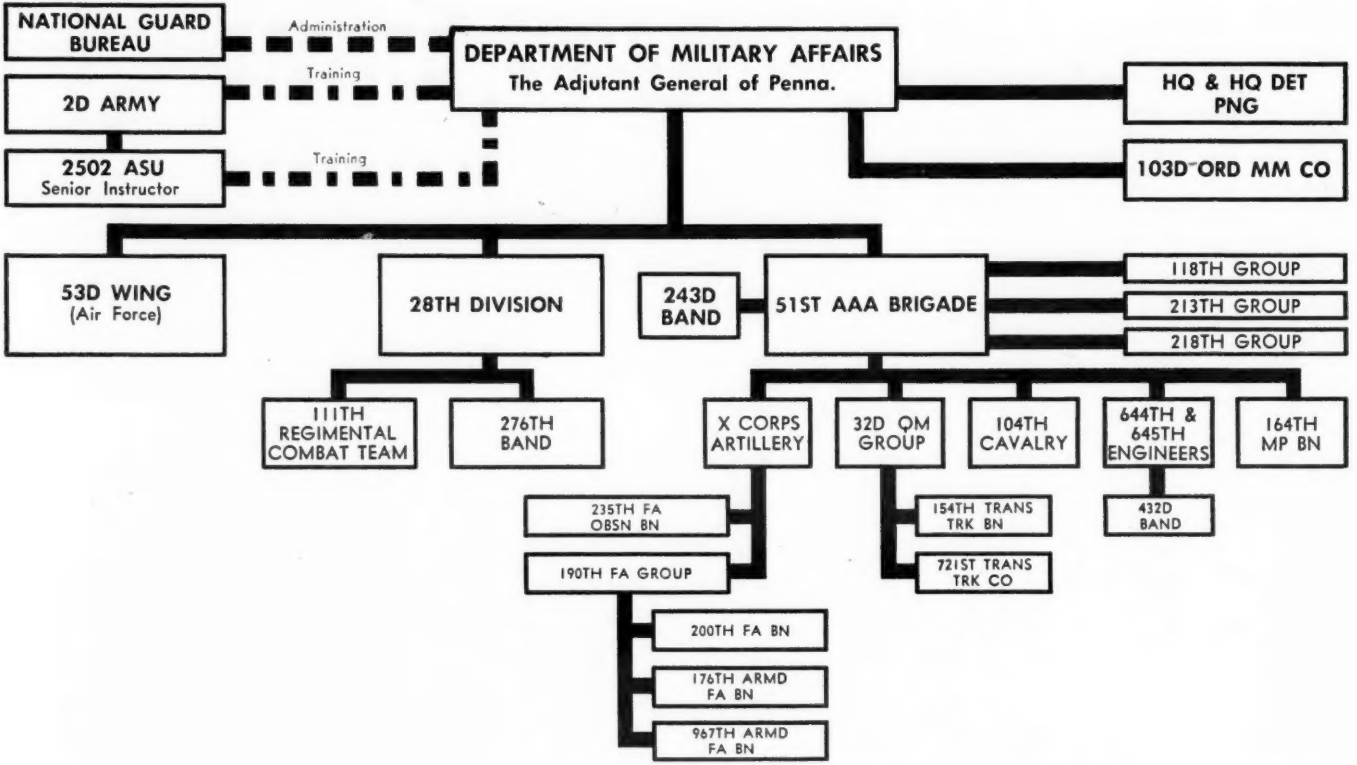
FOR six National Guard divisions, this summer's field training took on new meaning. They are the six divisions that have been selected, with twelve Regular Army divisions, to form the Army's Mobile Striking Force. With a normal training potential of 48 two-hour armory drills and 15 days of field training a year, these divisions are faced with the necessity of bringing themselves into a state of readiness that will enable them to stand side by side, in an emergency, with twelve Regular Army divisions that have a yearly training potential of 2000 hours. And of the 200 hours available to the National Guard division, a maximum of 96 hours can be spent in the field—the only time in which the command is together for training as a unit. The rest of the hours are spent in armory training, with one subordinate command located miles from another. This situation makes the 96 hours, or less, spent in summer camp the National Guard's most precious training time.

One of the National Guard divisions in the Mobile Striking Force—Pennsylvania's 28th Infantry Division, commanded by Major General Daniel B. Strickler—completed two weeks of training, 14 to 28 August, with 92 per cent of its officer strength and 84 per cent of its enlisted strength in the field. The Division, with the 111th Infantry Combat Team and the 276th Army Band as attached troops, trained at the Indiantown Gap Military Reservation, near Harrisburg. They trained for 15 days, including travel time.

In its second summer training encampment since World War II, the 28th Division, in common with the entire National Guard, faced new problems in training. The rapid growth of

CAPTAIN THOMAS R. NEVITT, QMC, is Managing Editor, ARMY INFORMATION DIGEST.

Organization of the Pennsylvania National Guard



the organization not only gave the 28th Division more men whose field training had to be crowded into 15 days; it also meant that a majority of the men were without previous military experience. Out of a July strength of 15,781 for the entire Pennsylvania Guard, 10,627 had no previous military experience and 6998 were 17, 18, or 19 years of age. To accomplish the training job, however, the Division had officers and first-three-graders who, almost to the man, had had World War II experience.

Men without military experience had to be trained from scratch; but their enthusiasm and eagerness to learn offset their lack of military experience. Instructors found that they had to extend themselves beyond their prepared lectures in order to satisfy their questioners. Notebooks were in evidence at every lecture, and the only complaint was that instructors, forced to cram considerable information into a short space of time, talked too fast for satisfactory note taking. Not only were notebooks in evidence; they were used. One instructor was seen correcting a man in the field as he gave a target designation. Out came a notebook; corrections were made, and the soldier then sounded off commands correctly.

One instructor, a major who was in the Guard before the war and who served in World War II, said: "This is entirely a

Official U. S. Army Signal Corps Photo

Guardsmen about to enter the tear gas chamber.

new National Guard spirit. In 1932, my first year, the camp was made up of men older in the service of the Guard. Among them was a hell-raising element who appeared to consider the camp a glorified picnic. Now, all these boys want to learn. They do not argue, either. They realize that their officers and noncommissioned officers have had combat experience and should know what they are talking about. It even differs from the Regular Army. It is a relief not to have some guardhouse lawyer speak up and say, 'We didn't do it that way at Benning.' We do not have the best facilities in the Army, but I feel that we are getting a job done."

Certain training facilities were critical, particularly small arms and mortar ranges, and bivouac and training areas. The camp this summer had to accommodate 11,000 troops as compared with 6000 last year. The measure of success was that no minute of field training was wasted; and the one factor that made this possible was staff planning. It was nothing fancy; just hard work, with close attention to detail. From the time the men of the 28th Division detrained, until the time they struck camp, the officers and men knew where they were going and what they were doing. This attention to detail was possible mainly because the Pennsylvania National Guard has certain personnel of its headquarters and headquarters detachment on the job the year around at Indiantown Gap, and the 28th Division has a representative in each of its general staff positions on full time.

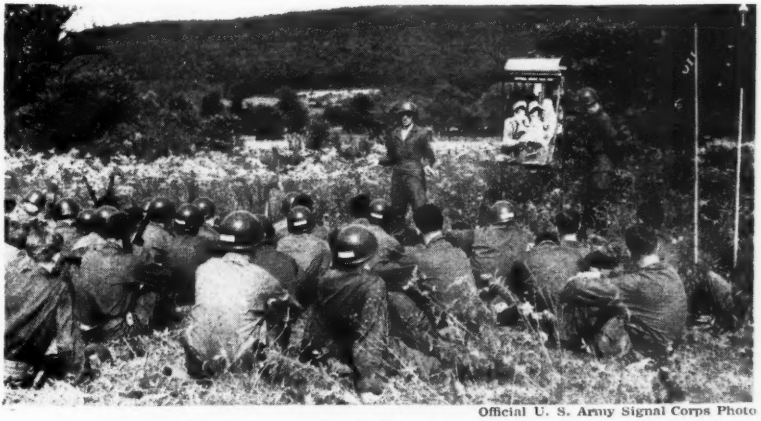
Unlike the problems of Replacement Training Centers, which are primarily those of training, the camp had the further requirement that the command be self supporting. This made necessary on-the-job training for certain categories of headquarters personnel, Military Police, Signal, Quartermaster, Medical, Engineer, and other service and supply troops. These troops participated, with their parent organizations, "in the greatest number possible," in marksmanship, individual proficiency tests, dismounted drill, ceremonies and inspections.

The National Guard training program normally provides for two categories of units—those in the 6-year program and those in the 60-week program, the cleavage being dictated by "age" since Federal recognition of the unit. Since all units of the 28th Division were qualified under the 6-year program by 10 August, no training under the 60-week program was necessary. Subjects were grouped in three categories: Basic and General,

44 hours; Technical, 24 hours; Tactical, 20 hours—for a total of 88 hours.

Still another category of training was that given recruits—men who had not had the requisite number of hours in certain basic military subjects during armory training. For this group, 16 additional hours were devoted to basic and general subjects at the expense of technical and tactical subjects. Recruit training was the responsibility of each organization—regiment, battalion, or company. The recruit was schooled in basic military subjects at times that would not conflict with marksmanship and field bivouac training.

The field instruction of the 28th Division was provided by its own officer and noncommissioned officer personnel. For certain basic and general subjects, the committee system was used, and resulted in a high caliber of instruction. Committees were set up well in advance, and all preparations were completed before the men arrived at camp. The experience of a major in the 110th Infantry is typical. Six weeks prior to the opening of camp this officer was notified that he would be responsible for instruction in combat formations (squad and section). He prepared a lesson plan, named two regimental officers as instructors, and organized a demonstration squad. When the date for camp arrived, the major and his assistants had their two hours organized for lecture, demonstration, and application (participation). The final preparations included a dress rehearsal and an examination of the training area assigned to them.



Official U. S. Army Signal Corps Photo

An outdoor class at the Indiantown Gap encampment.

At camp, all personnel slated for instruction in combat formation came to the major's committee—group by group, in rotation. In a similar manner, personnel went to the 112th Infantry for instruction in chemical warfare; to the 111th Infantry for defense against air and mechanized attack, and for domestic disturbances and martial law; to the 109th Infantry for interior guard and combat sentry duty, military sanitation, first aid and hygiene; and to Division Artillery for maps and aerial photos. Scheduling was firmly controlled by the G-3 Section of Division Headquarters. This was achieved by dividing the Division (with attached troops) into eighteen groups. These groups ranged from 350 to 550 men and were subdivided upon arrival at training areas into three or four smaller groups.

In basic and general subjects, hours were allocated as follows:

BASIC AND GENERAL SUBJECTS

Total	Subject	Committee System Under Div Control	Organization Conducted Training	Division Conducted Training
8	Proficiency Tests, Indiv.	..	4	4
2	Combat Formations	2	..	..
2	Compass	..	2	..
2	Chemical Warfare	2	..	..
1	Defense, Air and Mech. Attack	1	..	..
6	Dismounted Drill & Ceremonies	..	2	4
1	Domestic Disturb., Martial Law	1	..	..
4	Inspections	..	4	..
1	Int. Guard, Sentry Duty	1	..	..
2	Maps and Aerial Photos	2	..	..
4	Marches and Bivouacs	..	4	..
1	Mil. San., First Aid, Hygiene	1	..	..
4	Physical Tng., Athletics	..	4	..
2	Tactical Tng., Individual	..	2	..
4	Reserved for CG	..	..	4
44	TOTALS	10	22	12

A march and bivouac was required of all organizations. Infantry regiments conducted their march and bivouac training in conjunction with range firing, and pitched pup tents in open fields. Artillery units occupied tree-sheltered sites for cover from ground and air observation, in conjunction with service practice. Artillery liaison planes flew overhead to add realism. The inexperience of some troops was seen in the liberal use of flashlights and vehicle headlights. In one bivouac, the illusion of warfare was shattered by a newsboy crying his wares amid the pup tents.

After a day on the range, embryo gun crewmen stayed on in the gathering dusk, practicing gun pointing and studying the functioning of the piece. Arguments were settled either by the ubiquitous notebooks or by appeals to the noncommissioned officers. "They want to fire every round of ammunition you can give them and then practice gun-drill all night. I'm losing my sleep," complained one sergeant.

"Perhaps they are not doing everything right," said a commander, "but they surely are enthusiastic. I'm satisfied with my officers and men. One thing about this encampment--it brings together all the units of the command every year. Scattered as the batteries are, members don't get to know each other during armory training. I suppose all the officers and many of the men know me by sight because I have the means and time to get around. But many of the officers and all of the men never get to know the others in the command. The camp is a great morale builder, even though two weeks is not enough time in which to do a complete job."

Except for demonstrations, technical training was conducted by the Division's own troops and was dictated by appropriate weapons and the individual MOS. Gun crews received mechanical training in functioning, drill, and marksmanship. Familiarization training was given, in small groups, in the automatic rifle (BAR), light machine gun, heavy machine gun, 50-cal. machine gun, 60mm and 81mm mortars, and rocket

Official U. S. Army Signal Corps Photo

The 109th Field Artillery Battalion after receiving a unit citation.

launcher. Second Army crews demonstrated the 57mm and 75mm recoilless rifles.

Tactical training was conducted, at the squad and section level, for all infantry, field artillery, and engineer units and for Special Troops and the Reconnaissance Troop; and field artillery units, at the section level, engaged in field exercises. All personnel were required to participate in dismounted drill (Governor's Day Review), and indoor inspection.

Governor's Day was a colorful occasion. It was the day that the youngsters talked about as the high point of their training. It was a morale building day, a day that welded the scattered Guardsmen into a team. It was also the day on which those members of the Division to whom the war records of the Keystone Division were history, saw the 109th Field Artillery Battalion receive the Presidential citation for "outstanding performance of duty" against the enemy in the Battle of the Bulge. Guests on the reviewing stand that day, with Governor James H. Duff, included General Jacob L. Devers, Chief, Army Field Forces; Lieutenant General Leonard T. Gerow, Second Army Commander; Lieutenant General Manton S. Eddy, former Second Army Commander; and Major General Kenneth F. Cramer, Chief, National Guard Bureau.

A visit by General Omar N. Bradley—commander of the Division from June 1942 to February 1943—was timed to see the encampment in action. Training continued without interruption and with no special formations. The Chief of Staff watched rifle practice, listened to lectures, visited field messes and questioned everybody, from general officer to raw recruit. "From what I saw," he remarked, "they have a very fine set-up here, for both administration and training. They seem to have gotten into the training routine very quickly."

Food was prepared in the cantonment kitchens. Mess was the responsibility of unit commanders, and troops used their field mess gear. On bivouac, field kitchens were used.

The quality of the food and its preparation was again the result of advance planning. Some 300 cooks and their helpers, from all units, attended a four-day school conducted on the reservation by a detail from the Second Army's Food Service School. Top priority was given to preparing adequate mess facilities.

In common with the Regular Army, the 28th Division finds its greatest difficulty in the recruitment of medical personnel.

The encampment, however, was a healthy one. In order to use medical personnel to best advantage, an area dispensary system was set up, manned by organizational medical personnel. Four such dispensaries took care of the Division and attached troops, while a fifth cared for the X Corps Artillery and attached troops. The hospital was manned by the Division's medical battalion. The morbidity rate (sick in hospital per 1000 men) was .004. The venereal disease rate was almost nil. Only two cases were uncovered in the camp, and one of these was contracted before arrival.

Attendance at sick call brought to light the effect on youth of the long pull under conditions of nervous tension. Said one physician: "Put these youngsters on an obstacle course and they will run the oldsters into the ground; but when they have a tedious job to do their nerves betray them into imaginary ills. The older soldier is patient and relaxes."

One medical officer recalled the instance of an outfit, made up largely of younger men, that bivouacked in the rain. During the cold and chilly night, 400 men complained of illness. The unit commander reduced this number to 18, and when these men arrived at the hospital it was determined that only four of them had bona fide colds. The commander marched the others to their barracks to get warm.

Official U. S. Army Signal Corps Photo

General Omar N. Bradley watches pistol practice at the 28th Division camp.

The safety record was favorable—only five minor fractures and four lacerations. No major accidents on the range or drill field were reported. One mishap occurred when the trail of a 105mm howitzer dropped on a man's leg, but caused only a minor foot injury.

On the whole, the camp suffered little from shortages in individual or organizational equipment. Troops fired for record with the carbine and pistol, and for familarization with other weapons. The 57mm and 75mm recoilless rifles, new weapons, were unavailable to the Division. None of the shortages, however, seriously hampered training.

All vehicles of the 28th Division were pooled under the care of the 728th Ordnance Maintenance Company. Medium maintenance support was provided by the 103d Medium Maintenance Ordnance Company, a year around organization maintained by the Pennsylvania National Guard at Indiantown Gap. Its personnel are civilian employees, all members of the National Guard, who serve in uniform during the camp.

Special services activities included dances, held nightly except Sunday, at the service club. Two Army theaters were opened, and Army Exchanges were operated. Services for all faiths were held in chapels on the reservation.

The troop information program was not included in the camp training. The Troop Information Hour, it was believed, is more adaptable to armory training, when one hour in each quarter is devoted to TIP. Public Information consisted of on-the-job training, with a camp and a Division public information officer directing a limited staff during the encampment.

Regular Army personnel from Second Army, on duty at the headquarters of the Pennsylvania National Guard the year around, comprise 18 officers and 64 enlisted men. This Federal complement includes the Senior Army Instructor and his staff, the Senior Instructor for Air and his staff, and the United States Property and Disbursement Officer. The Senior Instructor acts in an advisory capacity and serves as liaison between the Guard and Second Army. On the Senior Instructor's staff is a Division Instructor who is training consultant to the 28th Division. The Property and Disbursement Officer has the responsibility of supply and procurement from Federal sources, acting for Brigadier General Frank A. Weber, Adjutant General of Pennsylvania. He also certifies the payrolls for Federal pay of Guardsmen in camp.

Any problems of officer procurement are not pressing thus far. From the vast pool of officers built up during World War II, the Guard may appoint officers in the grades held during active service. The majority of these, however, are in the higher company or field grades. In building its staff of junior officers, the Guard may appoint, as a second lieutenant, any noncommissioned officer who held a warrant in any of the first three enlisted grades in the Regular establishment for six months during the war period.

Recently, also, the National Guard Bureau authorized the commissioning of men from National Guard ranks who have had a year's service, either in the Guard or in the Army, and who complete the necessary correspondence courses. These men must be recommended by unit commanders and must be approved by a board of Regular Army and Guard officers. Still another source of officer material—not yet operative in the 28th Division—is the provision for sending National Guardsmen to officer candidate school.

With a successful 1948 summer training camp on the record, the planners in the Pennsylvania National Guard are turning their attention to bringing the 28th Division up to the new mark set by the National Guard Bureau—that of welding the Division into an effective M-Day force within three years instead of six years. The accelerated program has been initiated with the beginning of the fall armory training period.

Official U. S. Army Signal Corps Photo

A chaplain conducts services in the chapel at Indiantown Gap.

LOST AND FOUND--8,500,000 DOLLARS

By

COLONEL M. A. QUINN

GRADUALLY, the Army is closing out the largest lost and found bureau in the world. From a peak of 55,000 units of personal effects received in one month, the Army Effects Bureau at Kansas City, Missouri, now receives only a trickle—about 250 a month; but it still keeps files on 900,000 cases.

They come from all over the world, these personal effects. Wherever soldiers are stationed, wherever civilian employees work for the Government, personal belongings somehow are lost. Since February 1942 they have found their way to the Army Effects Bureau. The Bureau, a branch of the Kansas City Quartermaster Depot, was geared in wartime to handle personal effects of deceased officers, enlisted men, and civilians outside the United States; personal effects of officers, enlisted men, and civilians who were "missing" or "missing in action"; lost baggage of oversea forces; personal property (other than household) left at posts, camps, and stations in the United States; and property left by Army personnel on trains or common carriers in the United States. But how would that account for a 4½ foot stuffed crocodile showing up at the Bureau?

Almost all personal effects are distributed as prescribed by the Articles of War. With certain exceptions, the next of kin may obtain these personal effects, if they wish; but the Bureau queries them first. The exceptions, not available to next of kin, include information affecting military security, Government-issue items, and offensive matter, such as spoiled food and objectionable literature.

The problem is more complicated when it involves effects belonging to unidentified dead or missing. Since no next of kin

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is known, such articles are held at the Bureau indefinitely. The Army has no statutory authority to dispose of unidentified, unclaimed effects. A bill pending in the Congress would authorize the Secretary of the Army to dispose of them. Their value is undetermined, but the storage space that they occupy is costly. The personal effects of identified casualties, however, are disposed of, when unclaimed, by summary court procedures under the 112th Article of War.

Less than three per cent of the personal effects taken over by the Bureau during and after World War II are hopelessly unidentifiable. If there is one small scrap of a serial number, an initial, a name or an address on a letter, the Bureau spares no effort in following each clue to its ultimate source. Its painstaking letters of inquiry run into hundreds of thousands.

Today, the Bureau employs 55 persons. At peak operation, it had more than 970 employees, including 175 in an auxiliary correspondence section at St. Joseph, Missouri. Among the special qualifications for workers in this unique lost and found bureau are: a deep sense of responsibility in handling another person's belongings; sympathy, tact, and understanding in communicating with bereaved relatives. After working in the Bureau for several months, workers develop an uncanny knack for looking in the right places for clues and identifica-

Official U. S. Army Signal Corps Photo.

An examiner removes toilet articles which may damage clothing in transit.

tion. They also gain an insight into the eccentricities of soldiers. Who would think of looking in the lining of a soldier's clothing for money? One worker made a practice of doing this and, sure enough, a jacket turned up with $400 sewed into the lining. After that, all clothing linings were searched routinely. Many needy relatives have benefited from this service.

An odd looking box reached the Bureau, sealed all the way around. When the seal was broken, paper money exploded into the air, and fell billowing around the feet of the astonished workers. An ingenious soldier had figured out a way to pack foreign currency under compression! The contents of that carefully protected box were worth more than $20,000.

During World War I, an Effects Depot was established in France and another in Great Britain. These acted as collecting agencies, but shipped all effects to one of the major ports in the United States for disposition. An Effects Bureau was established at each Eastern port; but the system was cumbersome and confusing. In December 1918, a centralized Effects Bureau was established at Hoboken, New Jersey, but its operation was suspended in June 1921. Its functions were assigned to The Adjutant General and there ceased to be a centralized bureau. At the outbreak of World War II, however, the Hoboken plan was dusted off and the Army Effects Bureau was set up at a geographically central location—Kansas City. Full operation began in January 1943. The volume of incoming effects shipments steadily increased until mid-1946, after which it gradually tapered off.

Two general classes of effects are handled by the Bureau: Class I—personal property, including such items as clothing, books, and souvenirs; Class II—valuables and funds.

In Class II is found the most interesting assortment of effects, such as: foreign automobiles, jeeps, motorcycles; an airplane; motion picture projectors; a mounted collection of Chinese perfume bottles, some of which are 1000 years old; cameras of all descriptions; weapons, including a pocket knife with a snap blade and a contrivance for firing a small caliber bullet; pencil pistols; watches, clocks; musical instruments; jewelry, including pearls, diamonds, and other precious stones; various types of explosives, shells, booby traps (many of which were still armed); complete sets of chinaware; Persian rugs; tools; teakwood chests; music boxes; and just plain money—

money of all kinds, denominations, and types. Some $8,500,000 in United States currency has been received and disbursed.

An Air Force captain on leave in the United States bought an AT-6 trainer plane. After flying it back to Germany, he ground-looped on landing and was killed. The plane was practically intact and was sold by the summary court officer overseas, as are all of the more bulky items in soldiers' effects, and the funds collected were sent to his next of kin.

The handling of effects grew to tremendous proportions during World War II, entailing a number of separate operations in the chain. Generally, a summary court officer appointed at the soldier's station was charged with dispatching an inventory and the effects themselves to the Bureau. At present, however, oversea commanders have authority to ship personal effects direct to the next of kin. The Bureau currently receives only effects of the repatriated dead of World War II, and those who became casualties prior to 1 January 1948.

On arrival, all packages are opened and inventoried. All censorable items, as well as toilet articles and the like, are withdrawn. Clothing is laundered, and the effects are cleaned or polished so as to present the best possible appearance to the next of kin. In cases where the effects are clearly identifiable, the next of kin is notified by letter. Effects of unidentified casualties are inventoried, crated, and the boxes placed on storage racks.

In determining just who is to receive the effects, the Bureau follows the 112th Article of War, subject to State laws pertain-

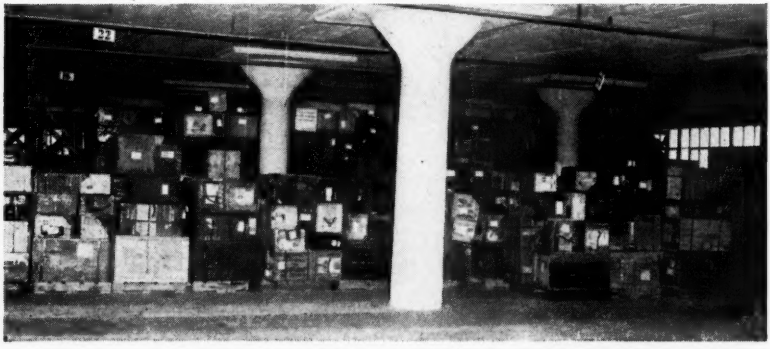
Official U. S. Army Signal Corps Photo.

After clothing has been cleaned, it is neatly repacked.

ing to inheritance of property. The first next of kin to be considered is the widow, or legal representative of the deceased; next, the son or daughter; then the father, provided he has not abandoned support of the family; and mother, brother, sister in the order named. The next of kin line descends from these. If the deceased left a will which has been probated, the designated beneficiary may claim the effects.

While wartime security regulations were still in effect, special handling was given to soldiers' diaries. A censorship detachment of 15 military intelligence officers screened more than 75,000 diaries. Snapshots and movie films were scrutinized, to make sure that no classified material was released.

In their individual dealings with bereaved parents and wives, personnel of the Army Effects Bureau have received many letters expressing heartfelt thanks. Typical is this comment by a mother in Savannah, Georgia, acknowledging the receipt of a footlocker containing the effects of her son, who had been killed. It read, in part: "When [my husband] opened that footlocker, I shall never forget how it looked. Aside from the fact that I know the Army does things neatly, I saw another angle. To us, every garment, in splendid condition, seemed to speak the mind of the person who handled it, and seemed to say, 'Thanks to you, Lieutenant———. We deeply appreciate the sacrifice that you have made for us who have the good luck to be alive.' Everything was there and in splendid condition. So may I say again, 'Thanks so much, for we shall never forget that day.'"



Official U. S. Army Signal Corps Photo.

Unidentified effects and those awaiting decision as to the recipient are stored in these racks.

Timely Reprints:

A FEW KIND WORDS FOR UNCLE SAM

By

THE HONORABLE BERNARD M. BARUCH

IT MAY help . . . to set forth now just what America's contribution to the war and peacemaking has been.

That record, never brought together before, is presented here not to detract from what others did—the Chinese, who resisted longest of all; the Russians, who lost the most lives and whose villages were rubbled under the conqueror's heel; the English, who braved Hitler's bombings alone for so long; or of others who joined against the common enemy. These facts are marshaled in hopes of inspiring a better appreciation of both the spirit and the magnitude of our endeavor, in which we hazarded everything with no impulse of reward, other than to gain peace for all.

It is a record for which no American need feel anything but pride. It is particularly worth examining now, when everything this country symbolizes is under assault by enemies, abroad and at home, who would destroy our faith in ourselves. The role thrust upon us by today's peace-waging is remarkably like the one we performed so magnificently during the recent war. Knowing what we did before, and therefore can do again, may hearten and comfort this greatest stronghold of righteous power left in the world.

In actual fact, more than one-half of all munitions produced by all the Allies were stamped "made in America." Our war expenditures of $330,000,000,000, through the fiscal year of 1946, exceeded those of Great Britain and Soviet Russia combined. However, this astonishing outpouring of production and dollars came in addition to bearing our full share of fighting.

Although the United States was forced into the war twenty-seven months later, American military casualties exceeded those

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of the entire British Empire in both dead and wounded. Of the ninety divisions which stormed through Western Europe, sixty-one were American. The initial landing waves of all but a few of the beachhead assaults on the many Pacific islands were American, aided by gallant, yet small, Australian, New Zealand and Filipino forces, and by China's dogged, holding attrition.

The *World Almanac* totals the casualties for England, Australia, Canada, New Zealand, South Africa and the colonies, together at 353,652 military dead, 475,070 wounded, 90,844 missing and 60,595 civilians killed, or 980,161 casualties in all. American dead numbered more than 400,000 and there were nearly 670,000 wounded. Our toll of dead would have been higher but for the remarkable care given the wounded.

We did not keep, for our own protection, weapons which could have been employed on fighting fronts. To the contrary, we deliberately exposed our defenses—not without protests from some Americans—so that everything possible could be shipped overseas. To Britain alone, more than 45,000 anti-aircraft guns were sent.

The wartime aid contributed to our Allies soared to $50,000,000,000, from which $10,000,000,000 should be deducted for reverse Lend-Lease and other settlements. For a nation which, according to its detractors, is motivated by selfish ends, we were remarkably insensible to opportunities for exacting materialistic gains as the price of this astronomical assistance. . . . Literally opening our Treasury, we pooled all our resources without limit, thought of repayment or haggling for postwar advantage.

To meet the Allies' needs, America's industrial capacity was vastly expanded. Some may point to that as a "war gain." Any idea that the war swelled America's net physical wealth evaporates if one compares our wartime imports and exports. Into the United States after Pearl Harbor were brought 106,000,000 tons of cargo of every type; shipped out were 268,000,000 tons. The difference is one measure of the physical resources expended as part of our war contribution. The 5,800,000,000 barrels of oil pumped from the American earth would keep all the automobiles in the country running for twelve years.

For what went abroad, we were paid virtually nothing, the bulk going to American forces or as gifts to Allies. For what we imported, we paid dollars, which represent claims upon

our future production still to be made good. Our public debt jumped five times. In 1939, taxes took as tribute one of thirteen dollars of our national income; today they exact one of every four dollars Americans earn. Still, the American people have continued their giving into the war's aftermath with additional loans and gifts, so far, of $21,000,000,000—not including our contribution to the World Bank and Monetary Fund—in UNRRA grants, the British loan, surplus-property credits and, most recently, the European Recovery Program. To Europe alone, last year, individual Americans sent more than 23,000,000 parcels through the mails and CARE, plus an estimated $120,000,000 in remittances to relatives and friends, and another $250,000,000 in cash and goods through private organizations.

One could search vainly mankind's whole history for comparable generosity. Yet, to some critics abroad and apologists at home, this is the record of a nation scheming to "exploit" and "enslave the world"!

Two-thirds of our Lend-Lease aid went to the United Kingdom, about a fourth—$11,000,000,000—to the Soviet Union. Such sums speak their own importance. Still, since the Soviet Government has chosen to dismiss this assistance as "incidental," these additional facts might be brought forth.

Our aid was concentrated upon filling Russia's most critical needs, like night-fighter airplanes which the Soviets could not produce, or aviation gasoline, in which Russian output was woefully deficient. The 1981 locomotives and 3,786,000 tires we shipped the U.S.S.R. were more locomotives and tires than the Soviets produced in any full pre-war year. Soviet truck production before the war ran around 200,000 units a year. We sent the Soviet Union 375,000 trucks. Being vastly superior to those made in Russia, these trucks probably equaled two years' normal Russian output.

Without American trucks, tires and locomotives and such items as 52,000 jeeps, 35,000 motorcycles, 415,000 telephone sets, 15,000,000 pairs of soldiers' boots and 4,000,000 tons of food, the Red Army never could have achieved the superior mobility which was one of its principal military advantages over the Germans. Being able to shift their troops more rapidly, the Soviets could choose Germany's weakest salients for their attacks.

Out of her own resources, Russia could not have supplied the 22,000,000 men the Red Army is estimated to have mobilized. Workers and peasants would have had to be kept back on factories and farms. Russian munitions production

would have been curtailed to fill the gaps we plugged. Nor should it be forgotten that we stimulated Russia's own productivity through nearly $500,000,000 of American machine tools and another $2,500,000,000 of industrial materials, like armor plate, aluminum, copper and zinc.

It does not lessen our appreciation of the incomparable courage and stamina of the Russian people in defense of their homeland to say they fought with one foot on home base. Our offensives had to leap two distant oceans. Nine days after General Eisenhower landed in Normandy, more than 3000 miles from the United States, General MacArthur was assaulting the Marianas, 6000 miles from home.

That we could undertake two such operations, at opposite ends of the world, at the same time has never ceased being a source of marvel to me. No other nation in the world could have done it. Of all the belligerents, only the United States really fought a global war. While Russia and Britain, as well as Germany and Japan, participated on a few fronts at most, there was not a battlefield or staging area which did not see American food, weapons and, in most cases, American men. Our communications tentacles stretched more than 56,000 miles.

In every field we set new production records. With fewer farmers, our output of food was lifted one-third. Off the assembly lines of our "arsenal of democracy" during the five war years rolled nearly 300,000 airplanes, more than 15,000,000 rifles and carbines, 319,000 pieces of field artillery, 41,000,000,000 rounds of ammunition, 4,200,000 tons of artillery shells, 86,000 tanks, 64,500 landing craft, 52,000,000 tons of merchant shipping—three ships a day—quadrupling our own merchant fleet. The Navy grew from 1,900,000 tons to 13,800,000 tons, greater than all the other fleets of the world combined.

How all the more remarkable those figures look when stacked against what we had when the war began: In 1940, for example, the Army's total air force was under 3000 airplanes. It is my belief that if America produced for peace as it did for war, all-out, without strikes or stoppages, inside of two years the foundations of world economic stability could be established.

Often, Americans are accused of not knowing for what we fight. Yet, ours has been a consistent—though perhaps inadequate—war aim. We fight not to implant ourselves on foreign shores, but to come home; not to remain warlike, but to return to war hating; not to impose our will upon others, but so we can continue governing ourselves as we wish.

THE VOICE OF THE PENTAGON

By

MAJOR E. G. KLINE

THOUSANDS of people glance atop The Pentagon as they approach it every day, notice the poles and wires and cone-shaped objects, and wonder why they are there; where they go; and who uses them. Few realize that they are viewing a small portion of an extensive communication system—the Voice of the Pentagon, a voice that is never stilled.

The Voice of the Pentagon, developed and operated by the Signal Corps, is the nerve center of the Department of the Army's communication system, known as the Army Command and Administrative Network (ACAN). It operates 24 hours a day, every day in the year.

The ACAN is the largest and most extensive Command network in the world. It reaches out to all points where United States Armed Forces are located and extends from the far reaches of Alaska to Asmara in Eritrea; from Germany to Hawaii, Japan, Korea, and the Philippine Islands; and to all Army Areas within the continental United States, as well as to stations in Panama and Puerto Rico.

Today the Voice of the Pentagon forwards all messages—over either wire or radio facilities—by a method known as tape-relay. This method was introduced into military usage by the Army early in World War II, when it became apparent that existing point-to-point facilities could not be expanded enough to meet demands caused by an unprecedented volume of messages. The message volume rose from about 500,000 gross-words a day in 1940 to 8,500,000 a day in 1945.

Semi-automatic equipment, used by the Army Signal Corps, in tape-relay, affords a more expeditious means of handling

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large volumes of messages. Its operation requires less personnel than manual point-to-point facilities. For where, in point-to-point operation, an operator is required at each end of a circuit, in tape-relay one receiving operator is capable of handling four to six incoming circuits, depending upon traffic volumes; and a transmitting operator easily can keep a bank of twelve transmitters loaded to capacity. Thus, sixteen to eighteen highly skilled technicians required to operate manual radio facilities—at a possible speed of thirty-five words a minute—are supplanted by two tape-relay operators, who operate equipment which normally functions at a speed of sixty words a minute. Furthermore, personnel can be trained to operate semi-automatic equipment in less time than it takes to train radio operators.

Each message filed for transmission receives six separate handlings. The message is time-stamped, or clocked in, when it is received at the counter, and is placed on a conveyor belt. The belt conveys the message to a point where the routing and appropriate procedure endorsements are indicated on the message face, and is given to an operator for conversion to tape-form. The tape then is blown through a tube to the semi-automatic section, where it is transmitted toward the destination that is indicated on the leader end of the tape.

Classified messages usually are encrypted at the crypto-center by machine equipment which automatically produces a cipher tape. This cipher tape version is sent by tube to the tape-relay section for onward transmission. Messages which are converted to five-letter code groups are reduced to tape form in the same manner as unclassified messages.

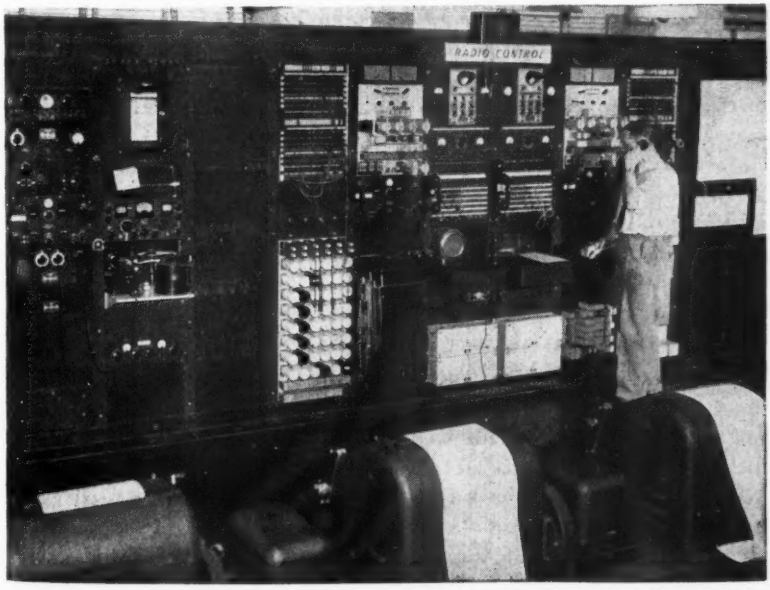
The actual transmission and receipt of messages, to and from distant points, takes place in the semi-automatic or tape-relay section. Here, console-type equipment is used for receiving, and bank transmitters are used for transmitting. The equipment is arranged in rows along the sides of the operating room, and incoming messages appear in tape form from small apertures in the consoles. The transmitting banks are aligned in front of the receiving consoles, each bank consisting of twelve transmitting devices arranged in two rows of six, one atop the other. As message tapes are received in the tape-relay section, they are segregated and placed in a washboard, grid-type tape holder to await onward transmission.

The time standard for processing and transmitting an originating message is 10 minutes; that is, each message received

for electrical transmission must be processed and forwarded to the next station within 10 minutes, if the standard is to be met. The time standard for tape-relaying a message received from one station for another station is six minutes; and the standard for converting a received message tape into page copy and making it ready for messenger delivery is nine and a half minutes. Under normal conditions, the standards are met.

Facsimile is used by the Voice of the Pentagon to transmit and receive photographs, charts, and diagrams. Facsimile transmission can be accomplished between Washington and San Francisco, Honolulu, Tokyo, or Frankfurt. When photographs are received, they are processed and the prints are delivered to the Public Information Division for review and further reproduction, if desired. Existing ACAN channels are diverted to facsimile transmission as requirements arise—usually during light traffic periods. The first telechrome (color) photograph ever transmitted over military facilities was reproduced through the efforts of the Voice of the Pentagon facsimile section during the Potsdam conference.

Maintenance and repair of the equipment is a big item. There are more than 300 machines in the communications



Official U. S. Army Signal Corps Photo.

Modern radio equipment plays a vital part in Army communications.

center which type and perforate tape. The maintenance section also cares for an elaborate system of conveyor belts and pneumatic tubes; a multitude of electric clocks and time stamps; and other technical items of equipment. A continuing program of preventive maintenance reduces equipment failure to a minimum.

More than 400 Signal Corps technicians are employed in the operation of the Voice of the Pentagon—officers, enlisted men, Wacs, and civilians. They include radio operators and technicians, communication specialists, teletype operators, maintenance and installation technicans, facsimile technicians, cryptographers, procedure specialists, tape-relay operators, administrative personnel, and clerks.

The administrative and engineering problems are handled by the Army Command and Administrative Communication Agency (ACACA), which also develops the practices and procedures which are used by the ACAN. It operates the network control station WAR and the associated remote receiver and transmitter facilities at La Plata, Maryland; Battery Cove, Virginia; and Fort Myer, Virginia. It is responsible for maintaining the $3,000,000 worth of equipment necessary to the operation of the Voice of the Pentagon.

As the focal point of Army communications, the Voice of the Pentagon operates under constant pressure, particularly during high-level conferences which involve national and military leaders. A notable incident occurred during a Combined Chiefs of Staff conference at Quebec, when a strategic decision to divert a major attack force in the Pacific from Mindanao to Leyte Gulf was dependent upon information from General MacArthur's headquarters. The word was flashed from Quebec to Washington, and a direct circuit to Hollandia, Dutch New Guinea, was established. Within a matter of minutes, the necessary information was obtained—accurately and securely.

Every effort has been made to make the Voice of the Pentagon the most efficient and modern military communications installation in the world. As fast as new methods and equipment are developed to advance the art of handling communications, they are reviewed to determine their adaptability to military requirements. And with the advent of sonic and supersonic speeds, the communication facilities of today may not meet the requirements of tomorrow. Therefore, the Voice of the Pentagon of tomorrow is in the laboratories of today.

DIGEST OF SPEECHES

Extracts from speeches and public statements pertaining to the National Military Establishment

General Bradley:

EQUIPMENT RESERVES—OUR MARGIN OF SAFETY

Contrary to popular belief, the Army does not have sufficient balanced stocks of weapons and other equipment to tide us through industrial conversion in the event of another war. After the defeat of Japan, vast stocks of equipment and materiel were scattered throughout the world. In many instances, the cost of transporting these items back to the United States would have exceeded the cost of procurement. In most theaters, the demand for instant demobilization denied the Army the shipping space that would have been needed for return.

By the end of the war, some of this military equipment had already been outmoded, and the rate of obsolescence has accelerated in the last three years. The maintenance of vehicles, weapons, and the vast complicated materiel of war burdened the Army with an impossible task. Industry could not be asked to manufacture replacement parts for equipment soon to be junked or outdated. And hundreds of thousands of the skilled and technically trained soldiers required to maintain this equipment were immediately demobilized, in response to demand. At advanced bases throughout the world there were facilities only for open storage, and climatic conditions took a costly toll. Substantial portions of stocks had to be disposed of immediately so as to prevent deterioration and complete loss.

Because demobilization was forced by public opinion into a disorderly rout, the United States not only wrecked the essential pattern of its Armed Forces, but it discarded and consigned to the junk heap in unmanned bases throughout the world billions of dollars worth of equipment and supplies. This was the price we chose to pay for expediency, haste, and a quick ticket home.

In addition, the urgent need for prompt reconversion of our war economy produced an early and unavoidable demand for release by the Army of trucks, tractors, bulldozers, construction machinery, and a vast variety of tools and equipment. And whenever the Army showed reluctance in relinquishing these essential supplies, it was immediately charged with hoarding, to the detriment of our economy at home.

Moreover, the power vacuum in Europe and the unsettled internal conflicts in China resulted in a high priority program of military assistance to our wartime allies. This grant to friendly nations consisted primarily of equipment within or near their borders. But, at the same time, it materially decreased our reserves for postwar forces.

This rapid depletion of reserve stocks permitted little planned control. As a result, some categories of supply were crippled worse than others. Consequently, the military value of our existing reserve stocks is limited not only by their inadequate overall quantities, but likewise by their unbalanced composition. For example, it is apparent that if we have sufficient reserves of rockets but no rocket launchers, the rocket reserves will be of no use until the production of launchers comes apace our needs.

Even with the best advanced planning of civilian consultants to the Munitions Board, and even with the full cooperation of industry, we shall face an irreducible lag of one year or more in the production of munitions in the event of war. Our ability to defend sensitive outposts and to support a limited offensive during that first year of waiting will depend entirely upon our stockpile of equipment reserves. Without this margin of safety, we could conceivably lose a war or certainly prolong a costly conflict—long before our industrial plant could be brought into action.

From an address by General Omar N. Bradley before the American Ordnance Association, 9 June 1948.

Brigadier General Wendell Westover

ORGANIZED RESERVE CORPS: PROGRESS REPORT

Approximately 9422 Organized Reserve Corps units of various classes have been activated. The Class A units are 30 per cent equipped and the Class B and C units have an average of 25 per cent home training equipment. Within the funds available—$23,000,000 in FY 1947 and $26,800,000 in FY 1948—a gradually increased amount of individual training has been accomplished. For example, a typical three months' period in 1948 showed 1900 officers at schools, 1800 at ROTC, and approximately 4000 on other active duty tours. Contact camps and command post exercises have been held; and an appreciable number of units are being ordered to duty as such each summer.

In respect to assignment, authority to break up Composite Groups has been given to Armies. Personnel currently within Composite Groups will be assigned to the Table of Distribution units required for the mobilization base and as fillers to bring Regular and Guard units to war strength. Those available, surplus to these needs, will be assigned to Training Units which afford an opportunity to train by branch in preparation for M-Day usage. Only those individuals so scattered as to preclude such an assignment will remain in administrative Composite Groups.

Enlisted personnel will be given similar assignments. Men with prior military service enlisting in Reserve units in lieu of induction, are expected rapidly to augment the existing unit strength.

By actual personal contact with Enlisted Reserve Corps personnel, commanding officers of units have brought the number who have volunteered for assignment and training from 75,000 in December to 186,000 in May. An Enlisted Reserve Association similar to the Reserve Officers Association has been formed.

The WAC Reserve and Army Nurse Corps Reserve now are authorized by law and become important elements of the ORC. The ORC team is growing in scope and strength.

As to training, in recognition of the fact that demands of civilian occupation preclude more than a small minority of officers absenting themselves from employment for more than two weeks, the Command and General Staff College course has been made available this summer in numerous localities. The two weeks' course is to be repeated during two successive summers, with intervening winter work, in order that the approximate equivalent of the Associate Course may be accomplished without undue periods of absence from civilian occupation.

Several of the services have progressed with production of packaged instructional material for use by units.

A long-range promotion plan has been published in Department of the Army Circular 246, 13 August 1948. It defines the requirement for retention of an Active Reserve status. It provides for a flow of officers within the Corps, upward through the grades, with ample room at the top to assure a career for those who remain active. Broadly, it divides the Officer Reserve into groups of Active, Inactive, and Honorary Reserve. Those in the Active Reserve receive the described opportunities for progress; they accumulate retirement benefits and qualify for assignment, training and pay. The Inactive Reserve represents those officers who desire to serve only in the event of a national emergency. The Honorary Reserve provides a military title and an opportunity to further the interests of the Services in a civilian capacity after 20 years of Reserve service, or at age 60, or upon permanent physical disablement.

Based on an address by Brigadier General Wendell Westover, Executive for Reserve and ROTC Affairs, before the Reserve Officers Association, with data revised to 1 September 1948

Speeches, in full, may be obtained on request to the Editor, ARMY INFORMATION DIGEST, Carlisle Barracks, Pa.

DIGEST OF LEGISLATION

Prepared by the Legislative and Liaison Division
Special Staff, United States Army

¶*Special Policemen for Duty upon Federal Property. (Public Law 566—80th Congress)*

Authorizes the appointment of uniformed guards of the Federal Works Agency as special policemen, having the same powers as sheriffs and constables, for duty upon Federal property under the jurisdiction of the Federal Works Agency, or upon Federal property under jurisdiction of any other Department or agency.

¶*To Provide Surplus Property for Weather Bureau. (Public Law 573—80th Congress)*

Provides that the Weather Bureau may furnish food and shelter to Government employees assigned to Arctic stations, Also authorizes the Army, Navy, and Air Force to transfer to the Weather Bureau surplus equipment and supplies which are necessary for the establishment, maintenance, and operation of Arctic weather stations.

¶*Increased Allowances for Escorts of Repatriated War Dead. (Public Law 599—80th Congress)*

Authorizes increased allowances for quarters, subsistence, and incidental expenses for escorts of repatriated war dead, provided such allowances, as prescribed by the Secretary of the Army, shall not exceed $8 a day.

¶*To Provide Aeronautic Facilities in the Canal Zone and the Republic of Panama. (Public Law 647—80th Congress)*

Authorizes the Administrator of Civil Aeronautics, subject to the approval of the Secretary of Defense, to provide air navigation, communications, and air traffic control facilities and services in the Canal Zone and the Republic of Panama. Also authorizes the transfer of certain airport property and meteorological facilities from the National Military Establishment to the Weather Bureau in territories (including Alaska) outside United States. A part of "International Aviation Facilities Act."

¶*Defense Construction at Nome, Alaska. (Public Law 649—80th Congress)*

Provides for the construction of shore protective works at Nome, Alaska.

¶*Attendance of Military Personnel at Civilian Schools, Industrial Plants, or Hospitals. (Public Law 670—80th Congress)*

Permits, within prescribed limitations, the detailing of personnel of the Army and Air Force of the United States without regard to components, to courses of instruction at civilian educational institutions, industrial plants, or hospitals, to acquire necessary knowledge or experience. The National Defense Act authorizing this type of training for members of the Regular Establishment limited attendance to two per cent of the Regular authorized strength in any one fiscal year. Public Law 670 extends this training authority to all components of the Army and Air Force of the United States, with percentage limitation set at eight per cent of the authorized officer strength and two per cent of the authorized enlisted strength of the Regular services, and eight per cent of the actual officer strength and two per cent of the actual enlisted strength of the reserve components at any one time.

¶*Care and Treatment for Members of the National Guard, Organized Reserves, ROTC, and CMTC. (Public Law 678—80th Congress)*

Authorizes six months' medical care and duty pay for reservists who suffer injury or contract disease in the performance of duty. Similar benefits provided by the Act of 15 June 1936 were limited to reservists on less than 30 days' duty during peacetime. Public Law 678 extends these benefits to wartime and national emergency periods.

¶*Credit for Longevity Pay Purposes for Certain Service Performed by Members of Armed Forces Prior to Reaching 18*

Years of Age. (Public Law 681—80th Congress)

Makes permanent the temporary provisions which permit service in the Army, Air Force, Navy, Coast Guard, Coast and Geodetic Survey, and Public Health Service, or their reserve components, prior to the attainment of 18 years of age, to be credited for longevity pay.

¶*To Return Certain Lands in Puerto Rico. (Public Law 693—80th Congress)*

Authorizes the Army, Navy, and Air Force to return all or any part of the lands acquired for national defense purposes in Puerto Rico, when such lands are no longer required.

¶*Admission Tax Exemption for Hospitalized Veterans and Servicemen. (Public Law 706—80th Congress)*

Exempts hospitalized servicemen and hospitalized veterans from the Federal admission tax when admitted free to places of entertainment, except when on leave or furlough.

¶*National Dental Research Act. (Public Law 755—80th Congress)*

Establishes a National Advisory Dental Research Council, to consist of the Surgeon General of the Public Health Service, The Surgeon General of the Army, and others.

¶*Research and Development Functions Relating to National Defense. (Public Law 758—80th Congress)*

Public Law 313, 80th Congress, established 45 positions, with rates of compensation from $10,000 to $15,000 per annum, for specially qualified scientific or professional personnel engaged in research and development relating to the national defense, military and naval medicine, and other activities of the War and Navy Departments. To conform with arrangements under the National Security Act of 1947, setting up the Departments of Army, Navy, and Air Force under the Secretary of Defense, Public Law 758 redistributes the positions to give each of the Departments 13, and the Secretary of Defense 6 such positions.

¶*Administration of Military Justice within the United States Air Force. (Public Law 775—80th Congress)*

Establishes the Office of The Judge Advocate General, United States Air Force, to provide for the administration of military justice within the Air Force. The Articles of War and all other laws in effect relating to military justice within the Army shall be construed as referring to the Department of the Air Force for the purpose of administering this Act. Provides that The Judge Advocate General shall be appointed by the President for a term of four years and shall have the rank of major general.

¶*Permanent Appointment of Certain Officers in the Four-Star Grade. (Public Law 791—80th Congress)*

Provides that the President may appoint one officer from each of the Services to the permanent grade of General, or Admiral, and that these officers, as they may be retired, will hold this grade in the Retired List. Qualifications for these officers are such that the appointments are for General Omar N. Bradley (Army), General Carl Spaatz (Air Force), Admiral Raymond A. Spruance (Navy), General Alexander A. Vandegrift (Marine Corps), and Admiral R. R. Waesche (Coast Guard). The law further provides that each such officer appointed under this Act shall be paid the full (active duty) pay and allowances for the four-star grade, while on the Retired List.

¶*Civil Service Benefits for Certain Veterans of World War II. (Public Law 802—80th Congress)*

Provides further benefits for certain employees of the United States who are veterans of World War II and who lost the opportunity for probational Civil Service appointments by reason of their service in the Armed Forces of the United States, and who, due to service-connected disabilities, are unable to perform the duties of the positions for which examinations were taken.

¶*Amendment to Officer Personnel Act of 1947. (Public Law 804—80th Congress)*

Provides that laws requiring retirement of Regular Army and Air Force officers because of age shall not apply to those appointed in the grade of General of the Army, and that the President may restore to the active list any officer in that grade heretofore retired. Also

provides that officers appointed in the grade of General of the Army shall not be counted within the limited numbers authorized for grades above Lieutenant General, unless serving as Chief of Staff or in command of a territorial or tactical subdivision. Section 2 authorizes the retention of certain officers on the active list in the grades of General and Admiral until July 1950, unless sooner retired.

The purpose of this legislation is to equalize the provisions affecting Generals of the Army with those pertaining to Fleet Admirals of the Navy, and to avoid the forced reduction in grade of Admirals Spruance, Kinkaid, and Hewitt, and Generals Handy, Clark, and Hodges.

¶*Boards of Visitors to the United States Naval Academy and to the United States Military Academy. (Public Law 816—80th Congress)*

Increases the number of members of the Boards of Visitors from 16 to 18, with the tenure of one-third of the membership expiring each year. Further provides that the Boards may, with the approval of the Secretary of the Navy and the Secretary of the Army, make other visits (in addition to the annual visit) to the Academies on matters pertaining to the duties of the Boards.

¶*Arming of American Vessels. (Public Law 817—80th Congress)*

Grants permanent authority to the President to arm American vessels in time of war or national emergency.

¶*Provision of a Revolving Fund for the Purchase of Agricultural Commodities and Raw Materials to be Processed in Occupied Areas and Sold. (Public Law 820—80th Congress)*

Creates a $150,000,000 revolving fund to be used by the Secretary of the Army for purchasing natural fibers, cotton waste, starch, dyestuff, and other processing and finishing materials, to be processed and sold in areas occupied by United States Forces.

¶*Extension of the Functions and Duties of Federal Prison Industries, Inc., to Military Disciplinary Barracks. (Public Law 821—80th Congress)*

Establishes as an integral part of the rehabilitation program for military prisoners, productive industries to provide employment and vocational training for physically and mentally capable prisoners confined in U. S. disciplinary barracks.

¶*Transfer of Horses and Equipment Owned by U. S. Army to Military Institutes. (Public Law 823—80th Congress)*

Authorizes the Secretary of the Army to transfer to four different military institutes (New Mexico Military Institute; Cornell University; Norwich University; Virginia Military Institute) all Army horses (except those used in the remount breeding program), which were on loan to those institutions for use in the ROTC program.

¶*Surplus Property for Civilian Components. (Public Law 829—80th Congress)*

Authorizes the transfer of surplus property without monetary consideration to states and political subdivisions and to tax-supported instrumentalities, suitable for use and needed in training and maintaining any civilian component of the Armed Forces.

¶*Renewal of Level Premium Term Insurance. (Public Law 838—80th Congress)*

Permits the renewal of any National Service Life Insurance five-year level term policy issued prior to 1 January 1948, for an additional period of five years without medical examination and at the premium rate for the attained age.

¶*Assisting, by Grants-In-Aid, the Republic of the Philippines in Providing Medical Care and Treatment for Certain Veterans. (Public Law 865—80th Congress)*

Provides medical care and treatment for certain veterans who served in the organized military forces of the Commonwealth of the Philippines while such forces were in the service of the armed forces of the United States pursuant to the military order of the President of the United States dated 26 July 1941. The President is authorized to furnish financial aid to the Republic of the Philippines in the form of grants for the construction and equipping of hospitals and

also for expenses incident to hospitalization. For construction and equipment, a grant is authorized not to exceed $22,500,000. For expenses incident to hospitalization, the grant is set at $3,285,000 for each fiscal year, for a period not to exceed five years.

The beneficiaries of this law are those Philippine Army veterans who are suffering from a service-connected disability incurred while serving pursuant to the military order of the President of the United States referred to above.

¶ *Transportation to Alaska. (Public Law 866—80th Congress)*

Continues, until 1 March 1949, the authority of the U. S. Maritime Commission to make provision for certain ocean transportation service to, from, and within Alaska.

¶ *Headstones or Markers for Graves of Members of Armed Services. (Public Law 871—80th Congress)*

Clarifies the authority of the Secretary of the Army to furnish headstones or markers for the graves of all persons who served honorably in the armed forces of the United States, including the Union and Confederate Armies. Also requires the Secretaries of the Army, Navy, and Air Force to compile lists of the names of all members who died while serving in oversea theaters of operation on or after 3 September 1939 and whose bodies have not been recovered or identified or have been buried at sea; and to provide for the inscribing of each name, with pertinent data, on the wall of a chapel, or other appropriate memorial, erected by the American Battle Monuments Commission or by the Department of the Army.

¶ *Veterans' Compensation for Disabilities. (Public Law 876—80th Congress)*

Provides that the rates of compensation paid by the Veterans' Administration for disabilities incurred in active military or naval service other than in a period of war service shall be equal to 80 per cent of the rates payable for disabilities incurred during active service in time of war.

¶ *National Industrial Reserve Act of 1948. (Public Law 883—80th Congress)*

Establishes statutory authority for the maintenance or control of a pool of Government-built essential and strategic plants, machine tools, and industrial manufacturing equipment, to be available for national defense purposes and war production in the event of a possible emergency.

¶ *Excess and Surplus Property for Educational Purposes. (Public Law 889—80th Congress)*

Authorizes the Secretary of the Army, the Secretary of the Navy, and the Secretary of the Air Force to donate excess and surplus property for educational purposes. Authorizes donation of such property to Military, Naval, Air Force, and Coast Guard schools.

¶ *War Claims Act of 1948. (Public Law 896—80th Congress)*

Establishes a War Claims Commission, with authority to receive and adjudicate the following claims: (1) claims of those civilian American citizens, with certain exceptions, who were captured by the enemy on Midway, Guam, Wake, Philippine Islands, etc., who are authorized to receive detention benefits for each month of their imprisonment, and disability benefits for certain types of injuries received while imprisoned; (2) claims of former military personnel, who were held as prisoners of war by any former enemy of the United States, for failure of the detaining government to furnish the quantity and quality of food required by the Geneva Convention; (3) claims of religious organizations in the Philippines for expenditures incurred by them in furnishing shelter, food, etc. to members of the Armed Forces or to civilian internees.

ARMY PERSONNEL MANAGEMENT

Twenty-one articles on personnel management, which have appeared in The DIGEST, have been selected by the Director of Personnel and Administration, General Staff, for reprint in pamphlet form. This 98-page pamphlet is available on request to the Editor, ARMY INFORMATION DIGEST, Carlisle Barracks, Pa.